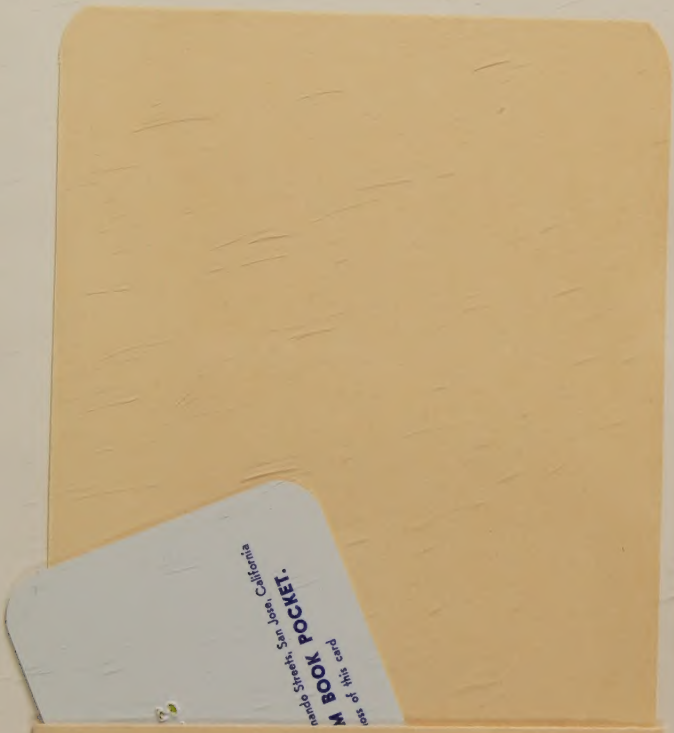

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HULDAH HAWLEY JORDAN, 1876

THE DAYS OF A MAN

BEING MEMORIES OF A NATURALIST, TEACHER AND MINOR PROPHET OF DEMOCRACY

BY DAVID STARR JORDAN

ILLUSTRATED

VOLUME ONE
1851-1899

11/78

Jungle and town and reef and sea,
I have loved God's earth and God's earth loved me,
Take it for all in all!

Yonkers-on-Hudson, New York
WORLD BOOK COMPANY
1922

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JDM: II-I

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TO BARBARA'S MOTHER

WITHOUT WHOSE QUIET INSISTENCE
THIS BOOK WOULD NEVER HAVE BEEN BEGUN
AND EXCEPT FOR WHOSE KEEN
SYMPATHETIC CRITICISM AND UNFAILING
HELP IT COULD NEVER HAVE
BEEN COMPLETED

FOREWORD

For half a century the writer of these pages has been a very busy man, living meanwhile three more or less independent lives: first, and for the love of it, that of naturalist and explorer; second, also for the love of it, that of teacher; and third, from a sense of duty, that of minor prophet of Democracy. If he had his days to live over, he would again choose all of the three.

The friendly reader will not fail to note that the record is essentially objective — simply the story of what one man did and saw in the world about him, being always eager to know the Cosmos as it is, and never unduly distressed at his inability to "remold it nearer to the heart's desire."

The same critic — should he read far — will also observe that the author rarely mentions any one of whom he must speak disparagingly, or ventures to judge harshly those errors in judgment or failures in will from which no one in public or private life was ever exempt.

As stated in the text, this work is essentially a record of friendships; but even as thus considered it is far from complete. For in the author's varied experience as teacher and as executive, he depended on the willing coöperation of his associates — aid granted in an unusual degree. To every one who has shown him sympathy and tolerance he is very grateful.

In the actual working out of remembrances he has received help from many sources, most of all from his wife, who has wrestled with every paragraph, both in manuscript and proof. To Charles

H. Gilbert and Barton W. Evermann he is especially indebted for jogging his recollection as to details in which they were concerned. As Agassiz often said, "Memory must not be kept too full or it will spill over." He is further under obligation to Professors M. Anesaki of the Imperial University of Tokyo and K. Hara of the Imperial University of Kyoto, who gave a critical reading to Chapters XXVI and XXVII. Finally, for any errors in fact or interpretation which may have slipped through anywhere, he craves indulgence.

DAVID STARR JORDAN

March, 1921

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BOOK ONE

1851–1879

THE DAYS OF A MAN

CHAPTER ONE

I

If we know ourselves well," says Barrie, "we now our parents also." Conversely runs the old hinto maxim, "Let men know by your own deeds ho were your ancestors." Again, according to rasmus Darwin more than a century ago, each an is but "an elongation of his parents' life." He , in fact, the elongation of two lives — and (be-ind these) of thousands of others more or less ivergent, else he could have no individuality or e really himself. Such originality as may be his omes from new combination, not from acquisition.

When a child is once born, "the gate of gifts is osed"; nothing more comes unsought. He may enceforth expect nothing new, but must devote imself to the adjustment and development of his eritage of potentialities received through father nd mother. Each one, then, is a "chip of the old ock," but not that alone; each is a composite of any chips of many blocks — a fact which obligates e to say something about my ancestry. This was ade up of common men — farmers, teachers, reachers, lawyers — and their womenfolk, all of ne old Puritan stock, every one of their earlier rebears (so far as we know) having migrated hope-lly from Devon for the most part, or in some cases om London, to build up new fortunes in the free

Puritan ancestry

air of a New World. Among them occur the names of Waldo, Adams, Cary, Hull, Bacon, Holly, Fowler, Foster, Graves, Dimmock, Wight, Lake, and Drake,[1] the line last named harking back in Devon to Drakes, Grenvilles, Courteneys, Prideaux, Gilberts, and De Quincys.

John Jordan

John Jordan, my great-grandfather, served in the Revolution; in after years he was justice of the peace at Moriah on the hills above Port Henry on Lake Champlain in Essex County, New York. Behind him and his father, Elijah Jordan, a Baptist clergyman of Litchfield, Connecticut, stood Rufus Jordan, supposed to be a certain Rufus known to have left Jordan in Devon to seek his fortune in America. John Jordan's old farm was a barren and stony tract strewn with crystals of red hematite, the common iron ore, which my father used for shot in squirrel hunting. Half a century later, and long after my grandfather, another Rufus Jordan, had sold this property, it acquired large value as one of New York's great sources of iron, and on it now stands the considerable town of Mineville.

Rufus Jordan

Rufus Jordan I remember as a dark and wiry little man with large black eyes, and an intense dislike for the political group which he called "the Feds." His death occurred in 1862, when he was seventy-nine years old. Of my paternal grandmother, Rebecca Bacon, I recall only that she was a slender, keen-eyed, quick-spoken old lady who sat by the winter fire.

My father, Hiram Jordan, was born on February 12, 1809, which date, it will be remembered, was also the birthday of Darwin and of Lincoln. A little

[1] See Appendix A (page 665).

ess than six feet in height, he was spare, wiry, and very athletic. As a youth he used to be able to clasp his hands and jump through them, a feat I also was once able to perform, but which I have been unable to compass for a good many years back. A clever hunter in his earlier years, Father possessed a large degree of woodcraft, though later in life he refused even to own a gun. With no very marked originality, yet quick to see a point and adopt from others, especially from my mother, he was a keen observer, a man of great energy, and of considerable ability as a speaker. His conception of duty was firm and unflinching; he used no form of alcohol or tobacco, and spent a large part of the latter portion of his life fighting the liquor interests in his county. Having been a strong Abolitionist before the war, he was from the first a vigorous supporter of Lincoln's policies. Active in behalf of all educational movements, he served for a long time as trustee of the public school of his district, and as a teacher himself for ten or twelve years was locally noted for skill in instruction and maintenance of order. By religious belief he felt in harmony with Unitarians and Universalists alike, becoming finally a pillar of the local Universalist church. Although of a cheerful disposition, he was undemonstrative and often silent for a long time if his feelings had been hurt. He never laughed aloud, so far as I can remember, but for that matter neither have I except in an elephantine way to amuse the children. My fun I always take internally. *Hiram Jordan*

Huldah Lake Hawley, my mother, was born in Whitehall, Washington County, New York, July 9, 1812. A woman of large stature and strong, religious character, though liberal as to details of *Huldah Hawley Jordan*

faith, she had a distinctly original mind, a broad outlook on affairs, considerable native literary skill, and (for her time) a good English education. At writing she was rather clever. Of her verses, which he copied neatly in an elaborately ornate hand, my father was very proud.[1] Mother, too, had been a successful teacher, and for some time after their marriage my parents maintained on the farm a private school with a few resident pupils.

Of David Hawley, my mother's father, a man of large build and generous mind, with a personal influence unusual for a frontier farmer, I had little direct knowledge, as for some years before his death he suffered from ill health which confined him to the house. His father was the Reverend Sylvanus

[1] One of my mother's poems, still preserved, reads as follows:

WHAT IS OUR HOPE?

When we shall sink in drooping age,
When friends depart, when sorrows rage,
And earth's frail joys all fleeting go,
What balm remains for mortal woe?

Is this our hope that we shall reign
With God, our Saviour, free from pain,
While millions of his children dwell
Mid ceaseless flames in endless hell?

Though tender offspring there we see
Wailing in hopeless agony,
Yet we with heartfelt pleasure hear
Their groans and sighs, nor drop a tear?

Ah no, we hope that one and all
Shall rise at their Creator's call,
From sorrows, sin, and death made free,
And all in Christ new creatures be.

This precious hope can give us peace
When all our earthly comforts cease
And make us with our dying breath
Shout, Where's thy victory, boasting Death?

HULDAH JORDAN

Gainesville, N. Y.
January 22, 1837

Holly of Stratford, Connecticut, our different spelling of the surname having been adopted by the children of Sylvanus' first wife, Huldah Lake, of which group my grandfather was one. Huldah Lake Holly was regarded as a gifted woman, and for her my mother was named. Two of the Holly descendants of the last century, Alanson and Birdsall Holly, became distinguished civil engineers.

My mother's mother, Anne Waldo, a third or fourth cousin of Ralph Waldo Emerson, and reputed to be a person of uncommon refinement and depth of insight, I never knew. She belonged to a well-known family widely honored in Connecticut and Massachusetts, her father being Judge John Elderkin Waldo of Canterbury, Connecticut, at the time a local leader of the "Federalists," who viewed with alarm the democracy of his age. In one of his speeches he decried the "hard times in Connecticut," and insisted that there would "never be good times again until every farm hand would once more work all day for a sheep's head and pluck." He then went on also to say that the trouble lay in the 'little red schoolhouses scattered over the hills, which preach the doctrines of equality and sedition." I should here explain that my mother, who preserved the record, was in no way sympathetic with these views of her august ancestor.

John Elderkin Waldo

2

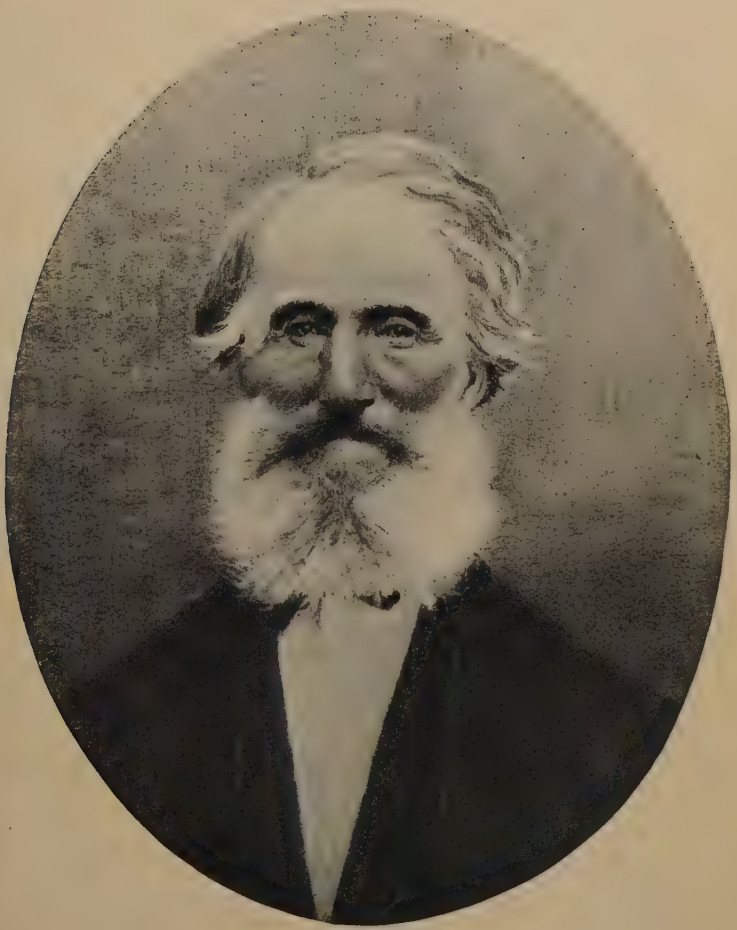
To return now to my more immediate story, it was in the year 1830 or thereabouts that my grandfather, Rufus Jordan, accompanied by his wife Rebecca, his sons Hiram and Moses, and his daughters

"Going West"

Lucina, Lydia, Rebecca, and Mary, left Lake Champlain and moved across the country after the fashion of those times in what was afterward called a "prairie schooner" to the Great Holland Purchase in western New York, a group of townships then mostly included in the county of Ontario. The first halt was at Arcadia[1] in what is now Wayne County, a rich farming country which nevertheless seemed to the wanderers less healthy than the Adirondacks from which they had come. Accordingly, after a stay of a few years, they moved still farther westward, settling in what was at that time a part of the township of Warsaw, then in the county of Genesee. The land they selected was high and rolling, crossed by the bright, clear headwaters of Oatka River, a smaller tributary of which became known as "Grandpa Jerdan's Creek." Later the southern half of Genesee was separated from the rest to form Wyoming, with Warsaw as county seat, the six-mile-square township south of Warsaw being first known as Hebe after the classical fashion of those days.[2] This name was later changed to Gainesville in honor of General Edmund Pendleton Gaines of Virginia, a "hero in the siege of Fort Erie" in the War of 1812 — a transformation I have always regretted, as I should have chosen "Hebe" rather than Gainesville as a birthplace.

[1] Here at that time lived Joseph Smith, the founder of Mormonism, who "translated" the famous plates of the Book of Mormon reputed to have been dug up in the neighborhood, the original hieroglyphics of which were read (according to tradition) by the aid of two magic glasses, the "Urim and Thummim."

[2] A system initiated by one of the head surveyors of the great tract of central New York to the east of the Holland Purchase, each township mapped by him having received a name drawn from his Latin repertory. Examples still extant are Ithaca, Utica, Troy, Syracuse, Rome, Ulysses, Homer, Virgil, Ovid, and Hesiod.



HIRAM JORDAN, 1886

During the journey from Arcadia to Warsaw, the Jordans had fallen in with another migrating group similarly bound, consisting of David Hawley, his wife, Anne Waldo, and his three sons and three daughters, who were moving from Whitehall (county seat of Washington County) near Lake George. On the way, Huldah, the eldest, became engaged to my father, to whom she was married at Warsaw on May 22, 1833. The young couple now bought an attractive farm situated on the highway leading from Gainesville to Warsaw, six miles away. Across the road was a magnificent forest of sugar maples, the finest I ever saw, and along our side, in front of the house, Father planted an avenue of the same trees. The farm itself, comprising at first only 100 acres, afterward grew to 150 and finally to 225, thus extending backward from the road for three quarters of a mile. To the west and about the house the ground, being "maple land," was very rich. Several of the hills farther back, however, were originally largely covered with hemlock trees, and where the hemlock grows the soil is always light and poor.

The Jordan farm

The hills that crossed the farm were, in fact, part of a broad terminal moraine of a vanished continental glacier, and to the north of the house rose a steep ridge made up entirely of glacial débris. On the farther side lay a small, deep glacial pond, full in the winter but going almost dry in summer. This we stocked with catfish — *Ameiurus melas* — locally known as "bullheads" (in New England "horned pout") brought from Silver Lake, a much larger glacial relic eight miles to the northeast. On the little tarn with its eager and toothsome fishes, I had my first lessons in angling — and in swimming as

A glacial pond

well. And I still remember vividly my first experience there with my father; as he stepped into deep water with me, the little boy, clinging to his neck, I said: "*I guess Mother better come!*"

Cranberry pond

Farther back was a noted cranberry pond, a huge spring of pure, cold water without inlet or outlet, covering nearly three acres, but with only a few rods of clear space, the rest being covered by a floating network of coarse water-moss — *Sphagnum* — held in a firm grip by the entangled roots of the two species of cranberries. Through the network at intervals were holes kept open by muskrats. On the *Sphagnum* grew abundantly two rare orchids — *Calopogon* and *Pogonia* — with other unusual plants, notably the beautiful little Swamp Laurel — *Kalmia glauca* — while the whole area was surrounded by a fringe of blueberries of two species, and the rare Swamp Holly — *Nemopanthes*.

In 1874, my father having inherited a sum of money from an uncle, Moses Jordan of West Chester, Pennsylvania, we were enabled to build a new house [1] and to purchase, as already implied, considerable valuable land, including what was left of the maple forest mentioned above, which adjoined the original property. After Father's sudden death on June 10, 1888, the whole place was leased for a time to my nephew, Ernest R. Beadle, and later sold by my mother.

I was the fourth of five children. The eldest, Lucia, who married James Beadle, a neighbor, was a woman of high intelligence and noble disposition, a graduate of the local "Female Seminary" — there being then no colleges for women — and the author

[1] Burned in 1916.

of clever verses, mostly of a satirical turn. She died in 1889 in Chicago, at the home of our sister Mary.

Rufus Bacon Jordan

My older brother, Rufus Bacon Jordan, was a tall, dark youth of grave demeanor and gentle and refined nature, with, nevertheless, a very characteristic fund of dry humor. As a boy his passion was for horses, as mine was for sheep. About a horse there was nothing he did not know, and he was intensely interested in all horse traits and activities. Thirteen years younger than he, I held him in absolute worship, and I still remember the long period of loneliness and distress after his untimely death. Night after night I would dream that it was not true and that he had returned safe and sound. In the spring of 1862 he went to Washington with James Beadle to enlist, but being immediately stricken down with "army fever," was sent home to die. The day they brought him back I was in a new clearing, engaged in the congenial task of burning stumps, when Lucia came rushing across the field to tell me that if I wanted to see my brother alive I must hurry to the house. In 1907 I dedicated "The Human Harvest," dealing with the biological effects of war,

"The Human Harvest"

"To the memory of my brother, Rufus Bacon Jordan, of the Human Harvest of 1862." [1]

[1] I do remember in the far-off years,
Through the long twilight of the August nights
(The nights of half a century ago)
I waited for my brother, whom I loved —
I waited for my brother, and he came —
Came but in dreams and never came again,
For he was with the Sisterhood of Fate;
Man is; Man is not; Man shall never be.

From "In the Wilderness"; Stanford Phi Beta Kappa Poem, 1912.

Mary Jordan Edwards

My only other brother, Hawley, died in infancy. Mary, a very intelligent and handsome girl three years younger than I, was the third woman to enter Cornell University. There she became engaged to Edward Junius Edwards, a former fellow student at Lombard University, where I taught for a year after graduating from college. Minneapolis has long been her home. For some years before his death in 1915, her husband interested himself in genealogy, and during the process of working out his children's ancestry, half of which was also mine, he brought to light many unknown or forgotten details of family origin and connections. Mrs. Edwards is the mother of six, Arthur (Stanford, 1900), Paul, Junius, Flora (Mrs. Bailey), Marjorie (Mrs. Blake), and Mary Edwards.

3

Birthplace

I was born on the 19th day of January, 1851, in the old brown farmhouse, left unpainted in my boyhood to save money so that we children might be educated. Originally — that is, in the early days before my father bought the farm — it had been a wayside inn, a habit never quite abandoned. It stood on the county road one mile northeast of the village of Gainesville, fifty miles south of Rochester, and sixty southeast of Buffalo. Vines covered the front of the house, and I therefore used sometimes to say that "I became a botanist in self-defense."

The Gainesville of my day consisted chiefly of two long streets meeting at a right angle. Just south of their junction a large stream, East Coy Creek, flowed obliquely through the town on its way to the Genesee

River. The "East Coy" apparently came by its name in a curious way. Six miles to the south, and for some distance parallel to it, runs a sister stream bearing the alleged Indian name of "Wiscoy," which, naturally suggesting "West Coy," by implication made our creek the "East Coy." Above the town this was dammed to form a mill pond, in which I used to swim and fish for bullheads. Below the town and down through the woods trout were always plenty, a fact the world at large has been slow to discover, for whenever I revisit the region, I still find big ones abundant under the bridge on the road to East Pike. Other kinds — sunfishes, darters, minnows, and suckers — are also common there, notably the speckled "Johnny Darter" and the slim, low-backed, pirate-rigged fantail darter, — charming, tiny creatures which interested me in my youth and have been near to my heart ever since. *East Coy Creek*

Ordinarily the stream could be waded almost anywhere by an enterprising boy, though at intervals there were deep holes for swimming and for washing sheep. In the spring, however, it often became a raging torrent, flooding the neighboring fields and sometimes carrying away the bridges.

The village — or, as we called it, "the Creek" — counted five or six hundred people, the only "foreign" element being a considerable group of farmers from the North of England. At the junction of the two main streets stood the "Female Seminary"; adjoining it rose the three principal churches, Congregationalist, Methodist, and Universalist. Architecturally of the usual New England order, with tall, sharp spires, they were painted white and *Gainesville*

flanked by horse sheds. In their yards grew the wild caraway, a spicy condiment which furnished welcome relief to children during the long sermons and congregational singing.

Across the stream was the largest store, and near by an inn which bore the conspicuous and sometimes inaccurate name of "The Temperance House." Abutting on these was a small common running steeply down to the creek, on the bank of which, farther up, stood the big gristmill and still farther on, the mill pond.

Early recollections

My first clear recollection is that of a little object in a red calico dress skipping down the path past the first row of currant bushes on the way to the well. A remarkable well, I may say, very clear and cold, tapping deep streams from underneath glacial deposits. For it we then used a chain pump, and as the water leaked back over the valves in the chain it seemed to me to keep saying, in a deep guttural, "*Red worm, red worm!*"

My next definite recollection is of being at the house of my cynical uncle, Francis Jenison, and of explaining to him that "yesterday I was four; today I'm five!" At about the same time I distinctly recall shouting for Fremont and Dayton, and asking my brother Rufus — referring to the rival candidates, Buchanan and Breckenridge — what "a brecken ridge" really was.

A year or two later Rufus undertook to teach me to handle a horse, and set me to leading one across a field. But the beast traveled faster than I could, and kept circling around me. Growing impatient at my clumsiness, Rufus said to my mother: "That

boy never will have any sense;" but she replied that he "mustn't talk so to a mother; he will learn as he grows up."

Quilting bees

Throughout my childhood, coöperative quilting parties were a common social feature, groups of neighbor women gathering of afternoons at the various houses to help each other out. In this way a good deal of work was agreeably accomplished with a minimum expenditure of time and perhaps a maximum of gossip. For the process, as most of my readers know, two layers of cloth of the desired dimensions — usually of vari-colored squares or strips of calico sewed together in simple or intricate design — and with generous interlining of cotton batting, were stretched over a wooden frame [1] and quilted through and through by hand. The result was a "comforter" worthy of the name. Often also the finished article was most attractive, and some of the patterns, I am told, were both famous and difficult. Today the "puff" of simple design and frequently of expensive material has crowded out the old-fashioned quilt, as the demands of modern life leave little leisure for piecing bits of calico!

Once when a "quilting bee" was on at our house, I walked about under the frame and got playfully thumped on the head by the thimbles of the women working above. I remember also being considerably puzzled by a proposal of marriage from one of the ladies present. This I took somewhat seriously, though it seemed to me best to wait a little while, as I might perhaps do better. Moreover, I had already

[1] This was so adjusted that the quilt lay perfectly flat and three or four women worked on each side. Then, as they continuously progressed toward the middle, the finished portions were rolled under out of the way, the side slats being made movable for that purpose.

assured my sister Lucia that when I grew up I would marry her.

One of my youthful duties was to help sew strips of cloth together for rag carpets which were woven in a loom, the same the women of the family sometimes used for the making of homespun cloth. Where each strip was of a solid color we planned distinct patterns, the different shades and widths alternating regularly; in inventing such designs I acquired some little skill. When the colors were broken, the result was called "hit or miss."

The old clock

Among my earliest memories is that of a large, old-fashioned timepiece which inoffensively attended to its own business when "the folks" were there, but had a distressing and eerie way of pounding out the slow minutes whenever I was left to myself. The psychological effect of a big clock on young boys has perhaps never been fully appreciated, for as soon as they are alone the thing seems to devote special attention to them, ticking off the time with exasperating leisure and an insistent loudness which it never otherwise possesses.

As a boy of seven or eight I used to amuse myself by walking along the rail fence which bounded the farm, meanwhile imagining various historical episodes. Each rail, for instance, would represent the career, easy or difficult, of some king or other. A little later I occasionally worked out on European maps visionary campaigns in which I imagined one nation after another fighting to correct its frontier; in these conflicts, my hero (usually named David Emanuel Starr) always had the proper idea as to national boundaries! This particular fantasy, however, soon merged itself into my later and really

MARY JORDAN
EDWARDS, 1873

LUCIA JORDAN
BEADLE, 1895

RUFUS BACON JORDAN, 1860

congenial task of map drawing, to which I shall again refer.

Playing soldier

Among my youthful treasures was an old bayonet brought back from Vermont by John Jordan from the Revolutionary War. Of its previous history I never knew anything more, and I recall nothing of its final fate. But in those days, like other boys, I played at war, making a large collection of spool soldiers with which to supplement my tin armies of Austrians, Sardinians, and French. From deep-cut spools which had carried coarse thread I fashioned my choicest grenadiers; experimenting, I found that they would stand better with the top sawed off, and best of all if the bottom were plugged with lead. Spools with shallow cut for fine thread, being mere infantry, I valued less, and the fatalities among them from pea-shooting artillery were very heavy.

A long drive

Out of this early period I recall a long, delightful trip with my father, who had to take a load of wheat to the village of Cuyler on the Genesee Canal in Livingston County. That drive gave us a better opportunity to get acquainted than we had ever had before, and I found him surprisingly interesting and friendly. For he was sensitive and reticent, and left intimate relations mainly to my mother. He was very proud of his children — she knew their inmost feelings. It has seemed to me that the average boy does not understand his father as well as he should, while on the other hand fathers often find it hard to keep in touch with their growing boys. To take a trip together is a fine way of developing comradeship.

No whipping

Corporal punishment, by the way, was not a factor in my development. So far as my memory goes, I was never whipped by either of my parents or by any one else. Punishment, threats, and rewards played no part in my upbringing.

To Rochester

In my eighth or ninth year I had another wonderful journey, this time with both Father and Mother. Taking a horse and buggy, with a little stool for me, we drove fifty miles to Irondequoit, near Rochester on Lake Ontario. This was a long outing, but full of interest. We stayed at the home of a relative who owned a fine peach orchard, and there I made acquaintance with the luscious fruit which would not grow on our colder hills. We then went twenty-five miles westward to the town of Albion (Orleans County) by way of the "Ridge Road," which marks an ancient shore some thirty feet higher than the present lake level and running parallel with it from the Niagara River eastward to the St. Lawrence. This highway was a "plank road" — that is, one covered with thick planks of pine or hemlock, the highest type of road-making of its day. The current phrase of the period, "two-forty on a plank," meaning a mile in two minutes and forty seconds, indicated the greatest speed then attained by a trotting horse. That trip to Rochester stands out in my memory as a sudden disclosure of the great world which I have ever since tried to explore and understand. An automobile would now cover the entire round trip in five hours.

Even as a boy in school, though large and strong, I hated all quarreling. But I remember having at about the age of nine a very bitter fight over some

incident long since forgotten, with an antagonist older than I, though smaller. The tussle took place on a pond covered with ice. Both being afflicted with "the tragedy of pride," neither was willing to give up, and the combat ran on unduly. The final result was "peace without victory." In this, or in any other bout in which I have engaged, I do not remember actually losing my temper. During all my career I have acted upon Senator Benton's motto, "I never quarrel, but I sometimes fight." *A tragedy of pride*

And only once, so far as I recall, have I ever felt an overpowering sense of fear. This experience occurred when I was nine years old. I was then engaged in carrying a bucket of young pout from our little tarn to plant them in the "Cranberry Pond." The only open space of clear water in that "quaking bog" was very deep, and shadowed on the land side by tall hemlocks; out into it ran a fallen trunk on which one could walk for a certain distance. Under the trees it was dark, and in their tops the winds were moaning loudly. Meanwhile I could see on the shore three weird "deadfall" traps, each baited with a sheep's head to catch predatory foxes. *Overpowering fear*

As I approached the open water, the noise in the trees, the sight of the skulls, and the loneliness of the whole scene all at once combined to give me a sudden panic. Dumping the fish into the wet moss at my feet, I ran back along the log and scuttled home. For no rational cause at all I felt a cold chill of fear which I still remember, and which enables me to understand similar emotions in other people under great stress. But I myself have never had the same feeling again. The nearest approach to it came at about the same time, when, looking out

from the village schoolhouse, I saw flames bursting through the windows of the "Female Seminary." Shrieking "THE SEMINARY IS ON FIRE!" I gathered up my books and made for home, a terrified youngster.

Timidity and mystery

Nevertheless, while I have always been more or less immune to fear as ordinarily understood, I have at times felt ashamed of my inability to make quick decisions in an emergency. Moreover, as a child I was rather shy away from home and in the presence of strangers. For instance, I still recall a bewildering timidity whenever I went to Warsaw, Castile, Hermitage, and Perry, noisy towns where nobody knew me; and it took a long time to outgrow that sense of being a helpless stranger in those unaccustomed places. I also felt an awed sense of mystery whenever I drove with my father along the brink of what we called "the Gulf," later known as Rock Glen — a narrow, dark chasm with vertical walls about two hundred feet high, through which the infant Oatka[1] River has cut its way for a couple of miles down to the valley of Warsaw. But when I came back from college ten years later, the town seemed very small, the hills not so high as they formerly were, and the distances absurdly short. Recently even Wyoming County (twenty-four miles square) seemed of trivial dimensions when I motored over it in a day.

[1] Pronounced O-at'ka.

CHAPTER TWO

I

My very early education I received at home, and I cannot remember when I did not know how to read. But according to my mother it was in her lap, as she rested and read Greeley's *Tribune*, that I began to pick out letters, and then words. At about the age of nine I first went to school, the ungraded district school at Gainesville which I attended for four years, and was then "put in the Fourth Reader." From Orlin Cotton, the teacher, to whom as a lad I owed a good deal in various ways, I had much sympathetic encouragement. Under him I studied Latin, and for writing lessons (in place of conventional copybook tasks) he allowed me to make an annotated catalogue of the rulers of every nation of which I was able to secure a history. My first impulse in this direction had come from being set to list the kings of Israel by a teacher in Sunday school. And there also I had some helpful voice training, being encouraged to "speak pieces" at church gatherings. In this effort I took a good deal of interest, doing fairly well, as I remember. After all, there is no great difference between appearing before a Sunday-school audience and addressing a congress or mass meeting. My last selection, I recollect, was J. T. Trowbridge's poem on Bolivar; this was in 1865, just after the death of Lincoln.

Learning to study

"Speaking pieces"

In school I used to do my lessons very rapidly and then often amused myself by inventing or re-

calling stories of adventure, which I illustrated by rough drawings on a slate or on scraps of paper. My particular cronies seemed to appreciate those efforts, but both tales and pictures have been long since forgotten by their author. In those days I read eagerly the few books of travel I could secure, especially Dr. Kane's account of his polar expeditions. Having dug out and equipped a toy boat, I named it the *Red Eric*, regretting, however, that it lacked the "red cedar plankings" of Kane's little craft.

The "Red Eric"

A special idiosyncrasy of mine, never outgrown and virtually never modified, is the feeling for color in letters. This appeared as soon as I had anything to do with the alphabet. Growing older, I was surprised to find that some really intelligent people fail to see that "S" is always a bright yellow, "R" a vivid green, "X" and "Z" scarlet, "O" white, "V" and "Y" blue, and so on. Such association of color with letters is now known to be not infrequent, and goes by the clumsy technical name of *Pseudochromæsthesia* or "false color sense." This is not really a perception *of* color, simply an association *with* color, which appears in persons who are sensitive in peculiar fashion to word and color values. On this subject I have in later years written two papers. It is first to be noted that the color scheme of each person is a purely individual matter, not derived from any objective source; also, that it is perfectly clear and definite when first recognized and does not change; further, that the tendency is hereditary. When Eric, my youngest child, was eight years old, not having previously referred to this matter before him, I said: "What color is 'A'?" "Red," he promptly answered. I then obtained his

"False color sense"

Tendency inherited

whole chromatic scale. Five years later I once more raised the question. Again he immediately replied that "A" was red, and repeated in substance the same series as before. He, moreover, seemed slightly surprised that any one should fail to see the difference between red "A" and yellow "E."

One of my nieces also has similar color associations with letters, but her vowels are mostly colorless, blue "G" and green "S" being brightest, while with Eric the reverse is true.

Mapping the stars

My earliest scientific interest was in the stars. While husking corn on autumn evenings I became curious as to the names and significance of the celestial bodies. At the age of thirteen I had completed a series of maps of all the visible stars, indicating their magnitudes and the boundaries of the constellations. Going out from the house, I would measure roughly with a pencil the position of four or five stars at a time, and then return inside to plot them on my chart. To block out the constellations, I had recourse to Burritt's "Geography of the Heavens."

That passion of mine persists curiously in the middle name I have ever since borne, and which I myself chose for two reasons. The one sprang from my love of astronomy, the other had to do with my mother's great admiration for the writings of Thomas Starr King and her profound respect for his personality. I ought also to say that while the name Starr does not appear in my ancestry, the descendants of the noted Comfort Starr have formally adopted me as one of the "tribe."

With astronomy I turned toward terrestrial geography. This has really been my main passion in

Mapping the world

life, and around it all my scientific work has built itself up. I now made elaborate colored maps of all parts of the world, copied from wherever I found material — no regular atlas being at that time accessible to me: township maps of the counties of New York, county maps of the different states, and provincial and other maps of the rest of the globe. These were done with more persistence than cleverness, but their broad range enabled me in after life to look upon the whole world as of one piece. The eagerness I then displayed rather worried my mother, who thought I ought to be doing something more relevant, and once she hid all my material, hoping to turn my attention to something else.

Other reverberations

My youthful passions for astronomy and geography were curiously paralleled in Eric's mental development. When about seven years old, entirely on his own initiative he suddenly acquainted himself with the names and positions of the stars he could see. This diversion overlapped an earlier hereditary "reverberation," the study of maps, though with me the order was reversed and I made maps while he planned elaborate itineraries. I once asked him to name the capital of Greece. "Athens," he replied. "Of Scorpio?" I quizzically inquired. "Antares," was the instant answer, as if state and constellation were organized alike. Quoting then from Manilius the following lines:

> Below his girdle near his knee he bears
> The bright Arcturus, fairest of the stars —

"Who was that?" I asked. And to my astonishment he calmly replied: "Boötes." But having made a list of the constellations with variable stars, that

interest with him, as with me, gave way rather suddenly to a deeper one in living organisms — things we could study intimately because we could lay hands on them. I turned to flowers, he to shells. At the age of eight, away from home and family for the first time, he sent me a written list of the fossil shells he had found in Santa Monica Canyon. There, as the guest of Mr. George W. Edmond and with encouragement from his host, he had matched the pictures in Ralph Arnold's monograph on the fossil mollusks of southern California. The relations of genus and species he seemed to understand perfectly. Two years later he modestly remarked to a family friend: "I don't like to talk about it, but I know more about shells than my father does." Which was literally true. And I may add that his first scientific paper, "Notes on a Collection of Shells from Trinidad, California," with descriptions of two new species of *Odostomia*, and written at the age of fifteen, was recently published by the United States National Museum.

Eric's shells

In my daughter Barbara, who at seven years spontaneously took up the study of birds, the same power of discrimination as to the meaning of natural classification was even more perfectly developed. The affinities of any newly acquired bird she seemed to understand instinctively. For instance, when she first held in her hand the glossy black *Phainopepla*, she declared that it belonged to the waxwing family, a conclusion reached by ornithologists after much discussion. One day, also, I brought home the skin of the female of a rather insignificant-looking streaked sparrow from southern California and left it without explanation. I had not taught her to use the books

Barbara's birds

on Ornithology, but when I returned I found that she had got at them and reported correctly that the little bird was *Amphispiza belli.*

It should perhaps be explained that these and similar details regarding the children are here given at the special request of a psychologist interested in problems of heredity.

2

Turning to Botany

Botany was my deepest youthful interest. Indeed, on my first day at school, I drew out from the library a little book on flowers. Studying the heavens in winter, in the summer I gave my spare time to the listing of the plants of our region, beginning with "Wood's Botany" as a guide, but turning afterward to the more difficult and more exact "Manual" by Dr. Gray.

The country round about my home was very rich in wild flowers, and in my early botanical studies I perhaps strained a point by adorning the conveniently white walls of my bedroom with the names of the different plants as I identified them in turn. At school no attention was paid to this interest of mine. Fortunately, however, I soon made a helpful acquaintance, a curious old man, Joshua Ellenwood by name. Though he lived a lonely life on a poor little farm, and wholly lacked scientific education, he had nevertheless wandered far and wide through the country round about, and had come to know most of the plants. His vixen wife held in scorn the "eccentric" tastes of her husband, who was, moreover, ailing and was considered by most of his neighbors as shiftless and a waster of time.

Flowers of spring

In the over-long winter, snow lies heavy on the Wyoming hills. With me as a boy the yearning for spring used to rise to a passion long before the swelling of the buds. The early flowers were a constant joy, — the succulent spring beauty, dainty rue-anemone, "half-venturing liverworts in furry coats," bloodroot, wake-robins of three species — red, white, and striped — the blue, white, and yellow violets. Later came the blue phlox, pink and fragrant azaleas, lobelias blue and scarlet, mandrakes with their fruits "sweetish and nauseous, eaten by pigs and boys," the tall meadow lilies, the little laurels of the swamps and the big ones of the cliffs, and (perhaps most charming of all) fantastic orchids in summer, and the blue fringed gentian in the fall. Trailing arbutus, the first flower to greet our fathers at Plymouth Rock, I never knew until I went to Ithaca, for it is found only under the pines on dry uplands and in maple districts like ours pines grow only in swamps.

Interest in flowers and trees

Flowers I loved as flowers — that is, as things of beauty — but I liked them the better because of the appeal they made to my scientific curiosity regarding their habits and locations, and (especially in later years) their origins and relationships. Accordingly I enjoyed the little ones as well as the big, and half a dozen little ones of different species, even though not beautiful, meant more to me than a hundred big ones all of a kind. A special proof of scientific as distinguished from æsthetic interest is to care for the hidden and insignificant.

A love for trees went with my passion for flowers, and the fact that our country exhibited several wholly different types of forest never failed to hold

my interest. In the woods about our home the beech and maple ruled exclusively, with only occasionally a cucumber magnolia, basswood, birch, poplar, or tree of other kind. Barren ridges were occupied by hemlocks, and the swamps by black ash, pine, spruce, tamarack, and balsam fir, with fringes of aspen and birch. In the regions farther east — from Perry to Ithaca and beyond — oaks, both white and scarlet, dominated — with, however, a good deal of hickory, chestnut, and pine.

Portage and Silver Lake

In the oak and pine region lay the scenic features of the country, the noble gorge of the Genesee at Portage and the placid Silver Lake at Perry. To both of these I went even more for rare flowers than to enjoy the scenery. Through Portage Gorge the Genesee has cut its way some ten miles from Portage Station to Gardow, the vertical walls of hard, greenish sandstone rising in places to over 400 feet, the river meanwhile plunging down three superb cataracts. Silver Lake, a dainty sheet of water about four miles long and one wide, was in my boyhood a favorite resort for picnics and for religious and other assemblies, as well as for boating and fishing. At that time groups of farmers often spent a night there, drawing long nets or seines, and bringing home the next morning wagon-loads of whitefish, black bass, pickerel, perch, and bullheads.

Silver Lake fills the smallest and westernmost of a long array of former gorges — thirteen in number — excavated by water before the glacial period, then widened and all but one, Oneida, greatly deepened by grinding ice, after which they were transformed

into lakes by moraines damming their original outlets. Oneida, set east and west crosswise of the glacier, is broad and very shallow, contrasting sharply in this regard with all the others. Cayuga, at the head of which lies Ithaca, is the longest and largest of them all.

Silver Lake I used to visit with special botanical interest, for there I found white and yellow pond lilies and the purple pickerel weed, plants which grew nowhere else in our neighborhood. And in the oak woods about I used to gather the fringed gentian in its season. Under the pine and around the rocks at Portage were still other interesting forms. The county, I came to recognize, had three entirely distinct floras, besides the special flora of the spruce and balsam swamps. One, as already indicated, belonged to the beech and maple woods, one to the oak lands, and the other to the rocks. Afterward, in college vacations, I continued my studies of the plants of the Genesee region, and presented for my graduating thesis as Master of Science at Cornell in 1872 a paper entitled "The Flora of Wyoming County." This was a rather intensive study of the local relations of plants to soil and other conditions.

Difference in floras

Unfortunately I had no training in drawing and I never learned the art of perspective. But at about fifteen years of age I began painting the wild flowers of the neighborhood, and people to whom Mother proudly showed my pictures said I had "genius." Certainly I had a talent for discriminating color and form; my efforts, however, never went beyond the sketching of flowers and fishes to preserve their bright colors, and in recent years the making of

Painting the flowers

gorgeous cartoons to please Eric.[1] The lack of training in these regards I have always regretted, not alone because it would have been a direct help in my scientific studies, but also because the accurate use of line and color is a factor in mental training and a "means of grace" in the affairs of life.

No songbird

Another art in which I should have taken great pleasure was denied me by Nature. A favorite winter diversion of the youth of my time was the "singing school." Everywhere in the country villages of that region, classes were formed by some musician, usually from a larger town near by. Being mildly interested in musical notation, and having an accurate sense of time, I was at first regarded as a promising pupil. But my sense of pitch was very faulty, and one teacher finally said that "I might perhaps some day learn to sing, but he didn't see how." And I never did. Meanwhile, though not a singer, I was good at athletic sports. In jumping, especially in high jumping, and running I excelled; and I made some progress in boxing, wrestling, and fencing with wooden swords.

3

Dickens

Along with my developing interests in science, the world of literary fiction was suddenly opened up. This came through my introduction to "David Copperfield," then just published. One of our

[1] Some of these, done over in black and white and accompanied by appropriate jingles, were published as "Eric's Book of Beasts." *L'envoi* reads as follows:

I write and paint in doggerel;
Though all the muses shriek and yell,
I go serenely on my way
No matter what such folks may say!

BARBARA JORDAN, 1898

neighbors, a man of some literary insight, who was about to read the book aloud to his family, invited me to join them, and in his home I heard the story from beginning to end. Later I read "Little Dorrit," "The Old Curiosity Shop," and "The Pickwick Papers," followed by the rest of the long series. But becoming acquainted with "Pendennis," "Henry Esmond," and "Vanity Fair," I found greater mental stimulus in Thackeray than in Dickens. I also felt a certain satisfaction in a remark of Becky Sharp, which I ventured to apply to myself. "If I had had a husband like that," said she, "a man with a heart and brains too, I wouldn't have minded his large feet!" Later still the early tales of Bret Harte — "The Luck of Roaring Camp," "Tennessee's Pardner," and "The Outcasts of Poker Flat" — impressed me strongly with their fresh vigor in the portrayal of frontier character and their picturing of noble scenery. At that time, still a boy who had not yet wandered far from the old farm, I little thought that one day Calaveras and Tuolumne, "the Santa Clara wheat," and "the gin and ginger woods" would be part of my normal environment!

Thackeray

Bret Harte

My father had a fair library — too much of it, however, given to works of religious controversy for which I cared little, being already pretty firmly established in "liberal" views. But in the collection were several books of poetry; and I remember reading Macaulay's History under the impression that it was fiction of a very interesting kind. Of the poets on our shelves both Byron and Moore fascinated me, although in Moore I enjoyed mainly the satirical, not the sentimental, verses. The following lines especially still linger in my memory:

Macaulay and the poets

Why is a pump like Viscount Castlereagh?
It is a slender thing of wood
Which up and down its awkward arm doth sway
And coolly spouts and spouts and spouts away
In one weak, washy, everlasting flood.

The "Atlantic Monthly"

But my keenest literary satisfaction was derived from *The Atlantic Monthly*, which my father took during the entire war period, and to which, for that matter, one of us has ever since been a subscriber. For during all these years it has retained its unique original character as a journal of high ideals in literature and politics. The *Atlantic* essays of Emerson, Holmes, Lowell, and above all Thoreau, had a good deal to do with shaping my intellectual tastes and in strengthening my fundamental ideals of democracy.

Introduction to politics

My first reactions to politics I date very clearly back to a sermon delivered in Gainesville in 1859 by Uriah M. Fiske, a Unitarian clergyman from Boston. Mr. Fiske was an Abolitionist. Referring to the Dred Scott Decision of the United States Supreme Court, confirming the Fugitive Slave Law, he said: "When this verdict was rendered there was joy in State Street — and in Wall Street — and in Hell." [1] This set me to thinking and to asking questions of my mother.

The rumblings which preceded the Civil War, as well as its final outbreak, I remember distinctly—still more keenly the struggle itself, overshadowing the land like a black cloud which would never be lifted.

[1] Another of Mr. Fiske's striking epigrams was also fixed in my mind: "The Almighty can accept his creatures without a passport from the church below."

Before the war began, my parents had diverged somewhat from each other in political matters. To Father, Abolition was the main issue, so that he inclined toward Greeley and the Republicans on the ground that, the slavery question being a moral one, it was not in the category of popular rights. My mother, a thoroughgoing believer in popular government, favored the Douglas Democrats, of which her brother, David Waldo Hawley, was a leading local exponent. And I remember hearing her maintain in 1860 that the platforms of both Lincoln Republicans and Southern or Breckenridge Democrats violated alike the principle of "popular sovereignty" in that both wished to determine arbitrarily the future status of new territories. The Southern Democrats, for example, wished to legislate slavery into them, the Republicans to legislate it out. Douglas Democrats, on the contrary, believed that the people immediately concerned should decide for themselves. But the attack on Fort Sumter, followed by the ordinances of Secession, led all Douglas Democrats to stand by their patriotic leader in his support of the war. Thus Father, the ardent Abolitionist, and Mother, the equally ardent Unionist, then met on the same ground, "squatter sovereignty" being no longer an issue.

Abolition versus Union

Throughout the war Greeley's *Tribune*, Forney's *War Press*, *Harper's Weekly*, and *The Atlantic Monthly* came to us regularly. The *Tribune*, especially, molded the opinions of millions by means of its owner's powerful and sincere editorials. It was therefore a great surprise and a mortal blow to Greeley that when in 1872 he was nominated for the presidency on a platform of moderation and

Greeley and the "Tribune"

conciliation, the partisan momentum of his former Republican adherents carried them into violent opposition.

Harper's Ferry and Sumter

In the various incidents of the war, the rise and fall of its military leaders, I took a continuous interest. As a boy of eight, I recall seeing pictures of John Brown, Green, Copeland, and the rest of the little band at Harper's Ferry posted in Card's Grocery, the local post office. Later the same window showed us Major Robert Anderson and his men, who were fired upon at Fort Sumter by Beauregard and the hot-headed youth of Charleston; Colonel Elmer Ellsworth, also, shot in Alexandria for hauling down a Confederate flag.

Emancipation

My early impressions of Lincoln were naturally drawn from those around me; my own appreciation of his greatness of character has grown steadily from that first knowledge of him and his work. It was not until about the middle of the war, however, that people understood his determination to save the Union by freeing it from slavery, its worst curse. The Emancipation Proclamation marked an epoch in history. But it took us a long time to see that Lincoln was greater than Seward, greater than Chase, greater than any or all of his Cabinet.

The call for men

After the war began, every community responded to the call for men, a demand utterly foreign to the experience and hopes of the North. One after another the boys went away, among them, in the spring of 1862 as I have said, my brother Rufus and James Beadle. The camp near Portage Bridge, where the first enlisted men of our section were drilled, I distinctly remember. Meanwhile I took the keenest interest in the events of the struggle:

the dismay after Bull Run, the bloody conflicts in the Wilderness — Fredericksburg, Chancellorsville, and Spottsylvania Court House — the dreary marches and countermarches in the malarial shades of the Chickahominy, the slaughters at Cold Harbor and Malvern Hill, the encouraging victories in the West — more than offset, however, by the distressing failure of one general after another in Virginia; and finally the varying encounters from Petersburg to Appomattox, by which the brave armies of the South were outworn and broken up.

War poets

I read with emotion Stedman's stirring appeal —

"Abraham Lincoln, give us a man!" [1]

and the vivid sea poems [2] of Henry Howard Brownell, a naval officer, our "Battle Laureate," as Oliver Wendell Holmes called him.

With Lee's dramatic surrender under the old apple tree on the red-clay slope across the stream

[1] Not a leader to shirk the boastful foe
And to march and countermarch our brave
Till they fade like ghosts in the marshes low,
And the swamp grass covers each nameless grave.
Nor another whose fateful banners wave
Aye in disaster's shameful van:
Nor another to bluster, swear, and rave —
Abraham Lincoln, give us a man!

[2] From "The Bay Fight" I quote the following:

Drayton strode to the prow,
Drayton the courtly and wise,
Kindly cynic and wise;
You'd hardly have known him now
With the flame of fight in his eyes.

Fear a forgotten form,
Death a dream of the eyes,
We were atoms in God's great storm
That sped through the angry skies.

Death of Lincoln

from Appomattox Court House, an immense feeling of relief swept over the nation. But the murder of Lincoln in the midst of his plans for generous reconstruction left the Ship of State rudderless, and the event seemed to cast a new shadow hardly less appalling than that which so recently had lifted. Yet we had a feeling of relief that Seward, who in public estimation was then comparable to Lincoln, still survived.

The various aspects of reconstruction were very confusing to me, as to others. A spirit of revenge, foreign to Lincoln himself, was unfortunately, if naturally, roused by his tragic death. This threw the control of affairs into the hands of the most extreme group, and the lack of any broad mind and moderating heart threatened to leave the Southern question an enduring wound in the history of our country. But I am not writing of war or reconstruction, only giving the impressions of an eager boy who was beginning to realize the nature and needs of his country.

4

Meanwhile, my parents felt that I had outgrown the district school, and proposed to send me to an academy, the institution of that day corresponding to the modern high school. Within eight miles of my home there were then three academies. Current biographical notices ascribe my preparatory education to the largest of these, that of Warsaw, where, however, I was never enrolled. My brother Rufus had taken his academy course at Pike, the next town to the south of Gainesville; nevertheless, it

was finally decided that I myself should go to Castile, five miles to the southeast. There a family acquaintance was willing to board me comfortably at a nominal rate, and it being reasonably near home, I could walk back and forth at week-ends.

Castile Academy

In due season, therefore, I presented myself at the Castile Academy, and was seated with an excellent boy whose name I do not now recall. But everything they talked about I had previously been over. I was, moreover, decidedly homesick, and so after two days I went back to my mother, pleading that there was no use in my staying at Castile, as I already knew all they were teaching there! This was indeed mainly true as far as mathematics, science, history, and English went, but from the boys themselves I might have gained much knowledge of human nature, for I was then distinctly "green."

The Female Seminary

My further education was now continued in an unforeseen fashion. Two young women from "Mount Holyoke," Miss Hardy and Miss Eldridge, had some time before established the "Gainesville Female Seminary," of which my sister Lucia was a graduate. The school was naturally modeled on the ideas and plans of Mary Lyon, founder of Mount Holyoke and the pioneer in the higher education of women. At the age of fourteen — being thought a youth of promise and otherwise apparently harmless — I was admitted to classes with the girls, a privilege also accorded at the same time to one other boy, Egbert Cunningham, son of the local Congregationalist minister.

At the Seminary my studies were French, algebra, geometry, and penmanship, in all of which the

instruction was good, and I came to write a surprisingly "neat" hand for a boy of my size and careless, easy-going temperament. I learned also to read French about as readily as my native tongue. Thus, during the long winter evenings, I used to entertain my mother with French tales which I translated as I went along. In that way we completed the whole of "Télémaque" and "Corinne." But my French teacher, Miss Kilbourne, a typical and charming old maid with long corkscrew curls, did not speak the language, and our only guide in pronunciation was Fasquelle's grammar, so that I had much to learn in that regard when I entered advanced classes at Cornell — still more when, long after, I undertook scientific work in Paris.

The study of French

Among other good things of this period I enjoyed the friendship of John Lord Jenkins, the minister who succeeded Mr. Cunningham. Jenkins was an amateur geologist and used to take me and some of the Seminary teachers on various excursions, during which we enthusiastically hammered away at the crystalline boulders brought down from Canada by the glacial ice and scattered all over western New York. Occasionally also we found Devonian fossils, and everywhere and always objects which awakened my interest in the make-up of the earth. Mr. Jenkins urged my parents to send me to college. Mother, being a little hesitant, said: "What will he find to do when he gets through?" "Never mind that," replied my friend. "He will always find plenty to do; there is always room at the top." This maxim, now conventional, was new to us then, and it stuck in my memory.

John Lord Jenkins

Along about this time the wholesome American sport of baseball came into vogue. The modern game had then been developed out of the old loose one commonly known as "rounders," although we always called it baseball; this was played with an indefinite number of bases, and the soft ball was thrown directly at the runner. At Gainesville we soon heard of the new sport, and the village blacksmith was accordingly sent over to Buffalo to see how it went. The glowing accounts he brought back led to immediate results. At once we formed a team, the "Gainesville Zouaves," flaunting a uniform of brilliant scarlet Zouave trousers and white shirts, and announced ourselves ready to play against clubs in neighboring towns. From that time up to 1909 I took part every year in some sort of match game. At the age of fifty-eight, while president of a university and with a steadily lowering batting average, I reluctantly abandoned the sport so far as my own participation went.

Gainesville Zouaves

In the "Zouaves" I began as left fielder, for I was very good at catching fly balls; I was also the best base runner, being able in those days to leap any ordinary fence. I was afterwards promoted to the rank of second baseman, and later I became a hard hitter. My greatest achievement along this line occurred in my junior year at Cornell, when on the old Willow Avenue grounds in Ithaca I made three consecutive home runs, the ball in each case passing over the roof of a house supposed to be beyond the center field.

It has long been a matter of mild interest to me that my baseball career began about simultaneously with that of "Pop" Anson, creator of the famous

Chicago team, and with that of A. G. Spaulding, leading manufacturer of baseball goods. Sometimes I used to think that my style of hitting bore some resemblance to Anson's, being preferably of "grounders" along the base lines.

Learning chess

Playing baseball with the boys at "the Creek," I amused myself with chess at home. This game I learned by going over the records of Paul Morphy and other champions of the time, as reported in the Philadelphia *Press*. I thus made some special study of the different recognized openings. In college I became first president of the original Chess Club, and was for much of the time the best player. My greatest weakness lay in failure to convert a traditional opening into an effective attack. After graduation I seldom played, as I found the effort quite fatiguing when added to other close mental work.

In 1866 I began to attend teachers' institutes. At one of these I won a small prize for the best essay on a bouquet of flowers, the basis of my superiority being that I knew each kind by its two names, the common and the scientific. In 1868, while planning to teach school and with a position already engaged at Cold Creek in Allegany County, I went to an institute at Warsaw. There they made up a ball team of which I was selected as first baseman, while my friend, Will Smallwood, a youth of fine wit and large stature, then a college student at home on his vacation, served as pitcher. At one point during a game with the local club, a very high fly being popped up, Smallwood and I both went after it. In a smart collision each was downed; I myself was led off with a broken nose, which, being badly set, has

A broken nose

ever since remained slightly askew. That mishap forced me to give up the Cold Creek position and thus made very material changes in my life, as I shall presently explain.

When I recovered from the accident, my father proposed me as teacher of the Gainesville school, a venturesome suggestion at the best. Moreover, as he was sole trustee, the proposition had to be voted on by the people of the district. The decision went against me, the opposition declaring truthfully that I was only an overgrown boy of seventeen, not adequate for the responsibility. Meanwhile, however, at South Warsaw, a manufacturing suburb of the county seat, a teacher had been bodily thrown out by the boys, a habit in that particular school, which was then considered the most unruly in the county. Some thirty years before, my father had taught there and had broken in the turbulent element. They now needed the same discipline again. I undertook the task, and through a régime of "blood and iron" mingled with conciliation, I managed to hold the position until the end of the term, — that is to say, from November to March, — when I entered upon my college course.

In South Warsaw

As a matter of fact certain circumstances were in my favor. On either side of the town stretched the long slopes of the great hills bounding the Wyoming valley, and often after school I used to go out coasting with the pupils, sometimes sliding as far as two miles at one run. Thus was established a friendly truce neutralizing the hard feelings occasionally engendered in the schoolhouse by the use of a nice maple ferule which I at first employed more frequently than I should now think wise, and which the

Coasting

boys afterward burned — an incident I pretended not to notice. On the road, in the woods, whenever relations were humanly personal, I always got along finely with all kinds of students. But in my first classroom a species of terrorism seemed to be demanded. I used sometimes to envy other young men for their "executive ability," a quality which I apparently did not then possess. Perhaps it ripens slowly; for in my long experience as university president it was usually thought to be one of my strong points.

5

Home advantages

In going over my early life I remember nothing which I can fairly count as an obstacle. My mother was intelligent, well-read, and sympathetic. My father, as I have said, was proud of his children and gave us what help he could afford — sometimes more; for until the latter part of his life he was always more or less in debt and had no particular skill in financial matters. From the age of fourteen on, therefore, I myself carried the small family purse and attended to all payments. It was good training, but I must confess that on three occasions I was an easy mark for the older heads with whom I came into competition, each time in connection with a deal in sheep.

During my youth our lack of money did not worry me, because I knew very few who had more, and those few made little display of their wealth. The farmers of the region were as a rule self-respecting and fairly well off. Among the twenty or so indigent families in our neighborhood, the obvious

cause of poverty was either feeble-mindedness or intemperance. At home, the household was friendly, helpful, and happy, not missing what it had never had. I know of no better environment for a child than simple contentment in such an atmosphere. Too much spending money brings its perils, and in America lack of money is the easiest of all obstacles to surmount and remove.

Chief drawbacks

The chief real drawback of farm life in those days lay in the prevalence of infectious diseases, against which parents had no way of guarding the children. Mary and I went through diphtheria together, afterward scarlet fever, and later measles. No one then knew how to treat these maladies and many children died, as we came near doing. Fortunately, however, we were attended by a capable physician of the old school, Dr. Zurhorst,[1] a bluff Englishman of kind heart and crusty manner, but ignorant, like every one else, as to the real nature of the plagues which ravaged our country communities, for bacteria were at that time still undiscovered.

Farm work

Outside the house things were not always to my taste, and for some phases of farm work I had a distinct dislike. My father at sixty, as I once remarked, "could still do a bigger day's work than he ever got out of me." I never loved to stow away hay, hoe potatoes, milk cows, or pile up stones. Nevertheless, I did enjoy using the cradle to cut a good field of wheat, I liked clearing up brushy land, and I was intensely interested in the care and breeding of sheep.

[1] Pronounced "Zirst." Similar eccentricities were universal among our English neighbors; thus Kershaw was "Cassia," Sherwood "Shuard," Gillespie "Glasby."

Love of sheep

In 1862 Rufus bought a flock of about thirty Dorset lambs of high grade. Leaving for the war immediately afterward, he asked me (then eleven years old) to take care of the beasts, a duty I assumed with great enthusiasm. In time I had tamed the whole flock so that they would not merely eat out of my hand but follow me everywhere, and to each I gave a name. Drawing partly from my nascent knowledge of French, I christened them "*Honnête*," "*La Noblesse*," "*La Paresse*," "*Darancourt*," "*Caulaincourt*," as well as "Columbiana," "Wild Gazelle," "Black Gazelle," and the like. For ten years — that is, until I left college — I sheared the whole flock every year, and faithfully kept a record of the amount of wool furnished by each one.

Father in the meantime had bought a number of Paular merinos, a breed with very fine wool. But merinos are not immune to hoofrot, an infection then current and easily transmitted from one sheep to another by simple contact with the grass over which an infected animal has trodden. To this disease the Dorsets are practically resistant.

Hoofrot in sheep

In a youthful way I really gave considerable attention to the care of our flocks, and the first scientific paper I ever published (*Prairie Farmer*, 1871) was a discussion of "Hoofrot in Sheep." In it I described the pathology of the infection which separates the layers of the hoof, causing the member to become swollen and feverish, thus making the animal hopelessly lame. To my mind the so-called virus behaved like a living thing, its "seed" transferable by contact. Such was indeed the case. Every virus is a living thing, an aggregation of microbes, though no one had so far demonstrated

that fact. The particular germ of hoofrot, moreover, was long unknown, but I am told that recent studies have shown it to be a pus-forming *Streptococcus* — *S. pyogenes* — akin to the forms which cause nasal troubles in man; with a good microscope I might perhaps have made important discoveries.

Caustic remedies

Carbolic acid being at that time unknown, tar was my only available antiseptic. But for permanent cure I was forced to fall back on caustics: first, nitrate of silver, which proved too expensive, next, chloride of antimony — harsh, but fairly effective — and, finally, a shallow hot solution of sulphate of copper (blue vitriol), which was probably the best. In a bath of this last we stood the sheep, with hoofs properly trimmed, until their feet were saturated.[1]

Peddling sheep

In 1864 I bought on my own account one hundred badly infected animals. These I succeeded in curing, but the sudden ending of the war brought down the price of wool from one dollar to thirty cents a pound, so that my new flock was carried through the winter at a loss. Accordingly, when spring came, I selected the least desirable and drove them across the country, selling them one by one where I could. Some, being very tame, went as cossets or family pets. The best Dorset and Paular ewes I retained for friendship's sake, a few of them until they were ten years old and I had left college, the farm having been meanwhile transformed into a dairy.

[1] Nitrate of silver I found to be the remedial agent in a secret cure which my father bought to try out. It contained also alkanet and oil of sassafras, both introduced to mask its character, the one being a red dye, the other lending a pleasant but deceptive fragrance. Chloride or butyr (butter) of antimony was then already in use among sheep raisers. Blue vitriol had been recommended by the well-known sheep breeder, Henry C. Randall.

Clearing swamps

Other tasks, not uncongenial but more laborious than the care and breeding of sheep, fell at times to my lot. On the farm were a number of small spring-fed swamps unavailable for cultivation until they were drained. In them the common timber was the black ash, interspersed with occasional thickets of aspen on the drier places. One of my duties was to cut down and burn the trees and brush preparatory to drainage. In the outlets of some of the swamps I found the bog ore of iron, but no use has ever been made of it.

Boiling sap

The making of sugar from the sweet sap of the sugar maple — *Acer saccharum* — is a regular yearly matter in our part of New York. The flow commences with the melting of snow in March and continues until the leaves begin to expand, at which time the sap takes on a bitter flavor. Our grove was a small but very good one. The spring I was fourteen, it was turned over to me, and I myself tapped the trees, gathered the liquid, boiled it down, and made the sugar.

Apple culture

I was also much interested in our apple orchard. Around the house stood a number of large and fine old trees. In my childhood Father extended this orchard up the steep moraine bounding the bull-head pond. At about the age of ten I used to record regularly the number and kind of apples on each of the young trees he had added. Afterward he and I together planted a row in alternate angles of the zigzag rail fence bounding the farm on the south.

I must, however, confess that neither physically nor intellectually did I ever exert myself to the limit of possible effort. Yet in college it was commonly

DAVID STARR JORDAN, AUGUST, 1868

said that I got more done than any other two men, though I "never seemed to be busy." The truth is, I learned very early to do my formal work in the shortest possible time and to keep always ahead of the class. Unfortunately I was always far-sighted, and though my vision in general was phenomenally good, it really involved eyestrains not realized for many years, but a serious drawback at forty. After I left college, bookwork by artificial light became more and more trying, so that from the age of thirty-five on I have been practically debarred from using my eyes for night study. Indeed, for more than thirty years my wife has helped me out by reading aloud in the evenings, and still more by critical and constructive work on manuscripts I have not been able properly to revise. Such limitations are partly responsible for my ability to skim ordinary English and French books a page at a time and still get their substance. (With German I never had the same success, but the fault lies with its syntax and not with me!) At the same time, although my reading has been very wide both in science and in modern history, narrower limits than I could have wished have been set upon it. I am therefore thankful for every piece of intensive study, in whatever line, which I made before executive responsibilities were thrown on me.

Far-sighted eyes

During all my life my strongest mental power has been the ability to recall clear pictures of what I have seen. I rarely forget a landscape, an animal, or a flower, though among men I remember names better than faces. The world I live in is a world of details rather than of generalizations — which

Memory

Nature is said to discredit even as she "abhors" a vacuum.

Eager but patient

I think the word "eager" best described my temperament as a boy. Indeed, I cannot recall a moment since when I was not eager for something. Nevertheless, this quality has been always more or less obscured by a shield of optimism which friends call "poise," and toward which my stature has no doubt contributed. In early life I became accustomed to work persistently toward desired ends and then take the upshot calmly. Moreover, I never worry over a mischance, once it is past. In some degree the two traits, eagerness and a sort of patient optimism, though seemingly contradictory, have always gone together in my make-up. I recognize also two other tendencies in lifelong competition. From my father I inherited a disposition to proclaim even from the housetops any fixed opinion, especially if unpopular. From my mother I have the impulse quietly to ignore differences when nothing is to be gained by outcry.

6

Religion

At about the time of their marriage my parents left the Baptist church because of their doubts as to "eternal damnation," a leading tenet in those days. Ultimately, as already implied, they joined the Universalists. I was therefore brought up under strong religious influences untouched by conventional orthodoxy. My father kept abreast of the writings (in part controversial) of Theodore Parker, William Ellery Channing, James Freeman Clarke, Thomas Starr King, and their followers. I myself

early acquired a dislike for theological discussion, believing that it dealt mostly with unrealities negligible in the conduct of life. Consequently I never had to pass through a painful transition while acquiring the broader outlook of science and literature.

But both my parents had the Puritan conscience and were very rigid as to personal conduct, deprecating all forms of idleness and dissipation generally. We children naturally developed a similar attitude, I suppose because we were "built that way."

Personal morals

The fact that other boys were doing any particular thing had not the slightest influence with me. My father, as I have said, and my brother Rufus also, did not smoke or use alcohol in any form. I myself never even once tried to smoke. My only lapse in this regard was in taking a single whiff of the Pipe of Peace or Calumet passed from the senior to the junior class at Cornell in 1872. Many years ago I formulated my views on smoking as "Three Counts against Tobacco":

Counts against tobacco

First, nicotine, the essential content of tobacco, is a deadly poison, acting — in small quantities — as a nerve irritant under the guise of a sedative. Any drug, however, which affects the nerves tends to put them out of order, thus deranging the most delicate of all machinery. Second, nicotine retards the development of the growing boy, and weakens virility. Third, the tobacco habit begets a lack of consideration for the rights of others, pollutes the air, and causes much discomfort to those not hardened to it. Furthermore, to be hardened is not a sign of strength, but rather an indication of loss of sensitiveness on the part of nerves which should be delicately alert. The advice given by Professor

George F. Swain of Harvard to his graduates in Civil Engineering, "Let your competitors smoke," seems to me good sense.

Attitude toward alcohol

In the matter of alcohol my theory has been as rigid as my practice. Accepting the validity of conventional temperance arguments drawn from physiology and the need of social sanitation, I press the case still farther. The sole purpose of alcoholic drinks is to force the nervous system to lie, and thus to vitiate its power of recording the truth. Men use alcohol, weak or strong, to feel warm when they are really cold, to "feel good" without warrant, to feel emancipated from those restraints and reserves which constitute the essence of character building. Alcohol is a depressant, not a stimulant, appearing as such only because it affects the highest nerve-operations first.

Its influence impinges alike on the three chief mental functions, sensation, reason, motion. It leaves its subject uncertain as to what he sees or feels, hazy as to cause and effect, and unsteady as to resultant action. No man of high purpose can afford to endanger the validity of these nerve processes which register his contact with reality.

Cards

As to cards, in deference to my mother's wish and because of my own conviction, I never touched them until after leaving college. With me personally it was not a question of right and wrong but a saving of valuable time for better things — study, athletics, and outings.

In my sixteenth year Mr. Jenkins preached a sermon on the need of man for a divine revelation. To this discourse I remember listening with what

I thought an open mind and at the end concluding that the case was not proved. Earlier (at about the age of eight) I had made some tests of prayer. When a toy boat I had built became entangled on the pond in the crotch of a log from which only a north wind could release it, I prayed for a north wind; by morning the boat had arrived in port. I was thus encouraged to petition, although unsuccessfully, for some things I knew I ought not to have.

"A prayer gauge"

With other youths of that time I was exposed to the peculiar institution known as the "revival." In western New York the Methodist Episcopal Church had been split by the secession of a group called Free Methodists or "Nazarites," who believed in intense emotionalism and the need of a spasmodic transformation to "a state of grace." One of them, a famous evangelist named Gilbert Delamatyr, painted the horrors of hell in vivid colors and scorching language; in his way he was an orator, not a clown, as some later exhorters have been. The general effect of his discourses was to create in believers a violent nervous disturbance so that some rolled on the floor, shouting incoherently. The reaction which followed when the blood-flow became relatively calm again was taken as a "new birth" and pledge of salvation. Often, however, the results of these emotional spasms were distinctly mischievous as to both sanity of life and personal morals.

Religion and hysteria

At such meetings I was never moved. But the Congregational Church undertaking in its cool way what it also called a revival, I rose and went forward with the others looking for "conversion." I was sincere enough in this matter, but it made no real difference in my life so far as I remember, and was

accompanied by no special "conviction of sin." As an irresponsible boy I certainly did foolish and selfish things at times, — I have often done them since, — but I was never malicious and never intentionally interfered with the rights of others. In any event, the quiet personal influence of Mr. Jenkins was far more effective for sound living and religious development than any emotional impulse derived from his preaching.

Camp meetings

Revivals were often held in connection with religious outings in the woods, lasting several days and known as "camp meetings." Once during my Cornell course a number of us walked over from Ithaca to a gathering on Seneca Lake. There we were welcomed as brands to be snatched from a godless institution, and were assigned a place to sleep in a "gospel tent" at the other end of which a prayer meeting was going on. One brother praying vociferously, "O Lord, come down and *crack our shells!*" — meaning break down reserve — Melville Anderson (a minister's son, by the way) called out a little too loudly: "There is a fellow over there who wants his shell cracked!"

CHAPTER THREE

I

Winning a Cornell scholarship

As I have said, the accident at Warsaw changed my previous plans. Up to that time I had been preparing, though somewhat vaguely, to enter Yale College (as it was then known) at New Haven. Meanwhile, however, Cornell had been founded, free scholarships were offered, — one in each of the Assembly districts of the state, — and a competitive examination for the Wyoming County scholarship was accordingly held at Warsaw. Leaving one of the older boys temporarily in charge of my now subdued school, I went and took the test. Three other candidates appeared, two of them already in college — one a Cornell senior, in fact. I was successful, however, and having duly received my appointment,[1] in March, 1869, I entered the new university with only seventy-five dollars in my pocket, but rich in hope and ambitions. Those prerogatives of youth were not to betray me, for I was able to pay practically all my way through college — mainly by botanical work and by instruction in botany — and at graduation I again faced the world with seventy-five dollars. Meanwhile I had made a point of asking my parents for little except apples and the like, for with the end of the war father had lost considerable money carrying over sheep and some

[1] With youthful *naïveté*, writing ahead to the registrar to make the necessary arrangements for entrance, I explained that I was eighteen years old, six feet tall, and weighed 180 pounds! At that time I was a strong, muscular, though sparely built and somewhat round-shouldered, young fellow, a good athlete, as I have elsewhere said, especially in sprinting and high jumping.

other interests which fell suddenly in nominal value — debts, however, remaining undiminished.

Arriving at Ithaca, I put up for one night at the Clinton House, — the first real hotel I had ever visited, — which impressed me as both luxurious and convenient. Next day, with a companion, I took a room on Linn Street at the foot of the University Hill. Here I got my first job, that of nailing lath on a neighboring house. Not long after I removed to Cascadilla Place, a huge stone edifice, formerly a sanitarium, then transformed into a dormitory for professors and students. At Cascadilla I paid my way by waiting on the table, a service mostly undertaken by the boys. In this art I acquired some dexterity; but as a whole it was the most distasteful form of work I ever tried, a fact which gave special zest to all my later experiments in earning money. The following autumn I moved to a two-story frame building owned (and put up) by students in what was at that time called "University Grove," a little thicket just behind the spot afterward chosen for President White's residence, the first of a long series of professors' homes.

Paying one's way

Establishing ourselves in "the Grove," we at once formed a boarding club, first in the little farmhouse which was then the center of the College of Agriculture, later at the Grove itself. This impecunious table venture was known in the early days as "the Struggle for Existence," familiarly "the Strug." The range of fare was not wide, but our scanty earnings, mainly derived from digging ditches and husking corn, scarcely warranted high living. Nevertheless, on the door I twice posted

"The Grove" and "the Strug"

remonstrant verses signed Nihil,[1] bewailing our steward's dependence in the one case on parsnips, in the other on graham mush.

One of my rebellious outbursts has been lately revived by an indiscreet friend. Had I expected the verses to survive beyond the empty condition which provoked them, I should have tried to do better:

Once we were blithe and gay,
Sang like a bird all day,
Fed on hot muffin;
Turkeys our table graced,
Oysters appeased our taste
Served up as stuffing.

O for a biscuit white,
Such as our sisters bake!
O for the doughnut light,
Such as our mothers make!
Even a wedding cake,
That were variety!

But no, 'tis graham bread,
Beans, peas, and graham bread,
Parsnips and graham bread,
Larup and graham bread, —
So, till we're gray and dead,
Dead from Satiety!

Roswell Leavitt

The leading spirit in the management of the house was Roswell Leavitt, a student from Maine, considerably older than the rest of us, — in fact, quite aged in our eyes, — extremely clever in literary ways but at the same time always behind in his studies and never learning what to me was a very important lesson of college discipline, the value of time and the necessity of getting things done before

[1] "Nihil fit! Fellow citizens, let us give three cheers for Nihil, the man who fit. He wasn't a strategy feller!" JOSH BILLINGS

The "Soirée littéraire"

they are wanted. At the Grove we met weekly for what we jestingly called a "*Soirée littéraire*"; on these occasions the record of the past week's doings was read, and selections from current stories or verse were presented by the various members. Once I ventured on some character studies in which Leavitt was pictured as "a tall pine of Aroostook" (the county in Maine from which we assumed he came) in the upper branches of which the winds sighed and sang. He retorted with the following:

> A withered pine that's only green at top,
> Given half in scorn, the other half in jest;
> The emblem suits me, let the insult drop —
> "*In hoc spe vivo;*" I accept the rest.

"The young Heroy"

My first roommate at Cornell was a young enthusiast, a wild-haired and original character, Isaac Newman Lounsbury Heroy, afterward a conspicuous Methodist preacher in Orange County (New York). After the first year, I shared a room with William Russell Dudley, a lad from North Guilford, Connecticut, who came with a letter introducing him as a young botanist in whom I would be interested. For although still an undergraduate, I had already been made instructor in Botany. It was in that year (1870), I believe, that the title "instructor" was first used in a university definitely to denote a teacher of lower grade than assistant professor. Before me, Theodore B. Comstock, since noted as a mining engineer, had occupied a similar position; and two others, John Henry Comstock in Entomology, and Oliver H. P. Cornell in Chemistry, were later appointed instructors, so that the rank became definitely established.

Dudley, a devoted lover of flowers and possessed of fine literary taste and ability, was also one of the noblest and purest youths I have ever known. His unfailing courtesy and absolute sense of justice endeared him to all. Our mutual friendship was lasting and intimate. During my instructorship he gathered the plants for class use, and together we roamed over all the hills and to all the waterfalls within thirty miles of Ithaca, on both Cayuga and Seneca lakes. A list of the plants of the lake region, begun by me, was afterward completed and published by him. Upon my graduation in 1872 he took my place, afterward becoming assistant professor in the department. In 1891 he was chosen as professor of Systematic Botany in the newly organized Stanford University, a position he held from 1892 to 1909. He then retired on a Carnegie pension and died not long after.[1]

A poet-botanist

His successful career as a teacher and student of Botany and Forestry may have surprised his practical father, who once expressed some skepticism as to the value of a love of flowers. During a visit I paid to the family home in the summer of 1871,[2] Mr. Dudley said to me: "There comes Willie across the fields with his hands full of flowers. I wonder if he can ever make anything out of that."

Equally closely associated with me was another young botanist in my own class, Herbert Edson Copeland from Monroe, Wisconsin. Copeland was

Copeland

[1] For further reference, see Chapter XVIII, page 440.

[2] While in Connecticut at that time I had an opportunity of visiting Yale, and also of going out to East Rock, where the three "Regicides," — judges who condemned Charles I, — Goff, Whalley, and Dixwell, lived for a time in 1649 under a sheltering boulder. On this they carved the words, "Oposition to tyrants is obedience to God," using but one "p" for economy's sake.

a wiry, dark, athletic, tremendously enthusiastic fellow, a surprisingly able writer, with a touch of Emerson's quality and especially of Thoreau's. He was also an eloquent and fiery speaker. Of all the young students of science I have ever known he, I think, showed the greatest promise, not only for intensive and original work but for versatility and broad-minded interest in public affairs as well. For a long time he was said to have been Cornell's best student in both English and Latin, as well as one of the very best in science. A sentence out of his earnest address as Commencement orator in 1872 clings in my memory, "I am proud of but one Copeland, a negro who died at Harper's Ferry, with John Brown."

An account of our later coöperation in scientific research and reference to his untimely death will be found in a subsequent chapter.

2

"Brothers in Delta U"

My friendship for Dudley and Copeland was cemented and extended when, with William A. Kellerman, another young botanist, we joined the recently organized Cornell Chapter of "Delta Upsilon," of which three other good friends, John Henry Comstock, John Casper Branner, and Jared T. Newman, were already members. For our personal aspirations were in harmony with theirs as well as with the avowed purposes of the fraternity itself.

Delta Upsilon had been founded at Union College, Schenectady, back in the '40's. Established originally as a non-secret society, it sometimes even admitted outsiders to its meetings; and its motto,

JOHN HENRY COMSTOCK

ANNA BOTSFORD COMSTOCK

MELVILLE BEST ANDERSON

WILLIAM RUSSEL DUDLEY

"Δίκαια ὑποθήκη" — "right foundation" — was held to have no importance beyond the expression of an ideal, although the Greek initials of other fraternities supposedly covered some secret. As a group, Delta Upsilon was opposed to secrecy as well as to carousing, and condemned the nocturnal tricks which were so prominent a feature of college life in those days of prescribed courses, when studies and professors were regarded as enemies by the "reluctant student."

My relations with the local chapter were extremely helpful. With scarcely an exception the members were youths of fine personality and wholesome influence. We stood at that time as the center of the "independent" or "non-fraternity" group; representing this element, I was elected class president at the end of my junior year. In many institutions Delta Upsilon had been rather the rallying point for students intending to be clergymen or professors. At Cornell it took a scientific turn, and we three botanists joined it, as I have said, because of our liking for others of our kind.[1]

The Comstocks

Comstock, — "John Henry" we called him, — who had a good deal of skill in the ringing of bells, first paid his way as Master of the Chimes and later as assistant to Dr. Wilder in Zoölogy. In his tireless enthusiasm for Entomology, he gave special lessons to a group of three or four, Copeland and myself among the number. Afterwards thirteen of us sent a petition to the faculty asking that those private lessons be recognized as university work. Our request being granted, Comstock was made instructor in Entomology, from which position he rose in time to be professor. He became, moreover, the recognized leader in his branch, and under him al-

[1] In this work the author has considered it desirable to set in small type several sections mainly of technical or personal interest. These are distinguished from extracts or quotations in the same type by a short line at the beginning and the end.

most every younger entomologist of standing in the country has at some time or other studied.

He married Anna Botsford, a Cornell graduate of later days, an artist and a naturalist especially interested in insects. Mrs. Comstock's big heart and genial nature, varied acquaintance, and sympathy with young people have made their home a center of student life for upwards of forty years. Her fine and accurate work in the illustration of her own and her husband's books commands the admiration of naturalists, and her efforts in recent years for the promotion of nature study in the lower schools of New York State have been very successful. The devoted friendship of both the Comstocks is one of our joys in life.

Branner and the others

Branner, a big, broad-shouldered, enthusiastic, jolly-tempered youth with a fine wit, a most delightful story teller, from Dandridge in eastern Tennessee, we hailed as "king of the wassail and jack of the rebels." He came to college with the intention to enter the Presbyterian ministry. Science, however, as events have plainly proved, was his proper field, and he turned definitely to Geology, in which subject he became in time a leading world authority. But of him, my lifelong friend, my colleague also for more than a quarter-century, I shall have frequent occasion to speak. Mrs. Branner, whom we have also long held in warm affection, is a graduate of Vassar and sister of Horace Kennedy, one of our favorite "brothers."

A forceful member of the science group in Delta Upsilon and also of "the Strug" was Edward Leamington Nichols, a rosy-cheeked boy of excellent caliber, afterwards for more than a quarter of a century head professor of Physics at Cornell.

Another "youngster of excellent pith" was Herman L. Fairchild, geologist, now for thirty years or more professor in the University of Rochester.[1]

Among others not scientifically inclined but much beloved were Newman, already mentioned, afterward an attorney in Ithaca and for many years also a member of the university board of trustees; John Manley Chase, a youth of rare per-

[1] Members of the local chapter of Delta Upsilon who became eminent in science, but who entered Cornell after I left, were Simon Henry Gage, physiologist; William Trelease, botanist; Leland O. Howard, entomologist; and Theobald Smith, bacteriologist.

sonal charm, now in business in San Francisco; Caleb Dexter Page, from the lumber woods of Michigan, — a delightful singer, — who also went into business; and Milton Campbell Johnston, before and since a sturdy farmer of Otsego County.

In the fraternity group of my day we counted also a couple of boys from overseas. One was a young Russian engineer of unusual ability by the name of Dobroluboff, familiarly known as "Double up and roll off," which then seemed a picturesque transliteration! In 1876, after his first return home, he came back to America in connection with the Russian exhibit at the Philadelphia Centennial Exposition. Later he fell into political disfavor, and the Cornell Ten Year Book prints after his name the grim phrase, "Executed for Nihilism in 1880."

The other alien, a delight to us all, was Riokichi Yatabë, a brilliant Japanese who became professor in the Imperial University of Tokyo, and later head of the first Japanese Normal School. Some years afterwards he was drowned in the surf at Kamakura.

Anderson and Brayton

Outside the fraternity my most intimate friend was Melville Best Anderson, an enthusiastic and brilliant student of serious literature. We had first met as companions in misery, balancing plates at Cascadilla, and as fellow members of "the Strug" with its idealistic outgrowth, "the Grove Literary Society." We later established an affectionate association, still unbroken for half a century. In witness of this fact, on my seventieth birthday — January 19, 1920 — Anderson read before an intimate group of friends, a noble poem in my honor, lauding beyond their merits certain qualities which I happen to possess.

With Alembert W. Brayton, a scientific student who attracted my special interest because of his originality and versatility, I came to have afterward, in Indiana, many close relations, forming a tie not weakened by thirty years of separation.

3

As already indicated, membership in Delta Upsilon was to me and my comrades a wholesome and helpful experience. But one who has been intimately

concerned with college problems for the better part of a lifetime cannot fail to admit that there are two sides to the fraternity question. And my readers will perhaps permit me to devote a few pages (which may be skipped at will) to a general discussion of the matter.

College fraternities

The "Greek Letter Fraternity" is an institution peculiar to America and wholly unlike any society found elsewhere. Social and literary clubs, associations for pleasure or deviltry, exist in some form wherever young people are gathered together. But a college fraternity differs from the others in being more permanent and more general in its purposes, and in having under one organization representative chapters in various institutions of learning.

Studenten-Corps

The German *Studenten-Corps* is not at all of the same sort. That apparently exists for the obvious immediate aims of drinking and dueling, both reputed to conduce to the development of "nerve." A *Corps* student should be prepared to swallow without embarrassment three steins of beer in quick succession, and to fight promptly with any one of his caste who stares or scowls at him. Scars on the face (the more conspicuous the better) are the prized and visible testimonials of courage. The general purpose of the *Corps* and its *Kneipe* is to teach the conventional manners of the aristocrat, to sing loudly, clearly, and in unison, to carry beer without nausea, and to fight duels without flinching; its final aim is the perfection of the military spirit. The singing is worth while. But the best type of German student does not, as a rule, belong to these noisy, generally dissipated, and intolerant sets. And in 1913 I was told that since the century began

Corps membership had fallen from about seventy-five per cent of the student body to twenty per cent. In 1910 I met in Berlin the president of a student "*Total Abstinenz Gesellschaft.*"

Phi Beta Kappa

The parent of modern Greek Letter groups arose as a medium for encouraging youths of promise. This was the "Phi Beta Kappa Society," founded at the College of William and Mary, Williamsburg, Virginia, on December 5, 1776 — not a fraternity in the modern sense, but rather a means of granting honors in literature. The persistence and expansion of Phi Beta Kappa has been a prominent factor in our colleges and universities, the actual members in each institution electing each year a certain number of associates from the higher classes; the institutions themselves, however, have not, as a rule, formally recognized the organization. Phi Beta Kappa had not been established at Cornell at the time of my graduation. Through the interest of the local group at Stanford I later became a retroactive member.

Sigma Xi

In science, Sigma Xi, founded by Professor Henry Shaler Williams at Cornell in 1896, of which I was a charter member, runs parallel with Phi Beta Kappa in literature. For the main address at the banquet of the society's first general convention at St. Louis in 1903, I chose as my title our motto — *σπουδή ξυνήον* — which I translated as "Comrades in Zeal." Within the last twenty years other scholarship societies have arisen, with membership confined to professional schools — Law, Medicine, Engineering, and Journalism.

But there are among students, as we have seen, other bonds than those of scholarship. This fact

Special features gave rise to the many national college fraternities (and sororities, the "sister" form among young women) which assumed from the first a relationship and intimacy never contemplated by Phi Beta Kappa. The element of secrecy also, real or pretended, was early adopted by all except Delta Upsilon, in imitation of the Masons and other fraternal organizations, and in earlier periods was used to cover numerous pranks and deviltries. Sometimes also a fraternity led in political combinations both in college and out. A special feature was the law or custom by which a man enrolled in one group could never afterward legitimately join another.

In the beginning, election to a fraternity was a distinction — and so sometimes it is today. In Delta Upsilon and some other groups no freshmen were originally eligible, a rule later abandoned through the exigencies of the "Chapter House." For about thirty years ago fraternities everywhere entered on an entirely new set of conditions, due to the acquisition of individual residences in which the members generally live, and to the support of which each one contributes. A degree of uniform temper is necessary within the group, and the house must be kept filled; members should, of course, have the money to pay their share of the general expenses, though the possession of ample means is hardly a proper gauge of personal worth. Furthermore, while the Chapter House promotes closer friendships and coördination of ideals, it also involves other disadvantages to which Delta Upsilon has been subject not less than others, and which I may briefly enumerate.

The Chapter House

Privacy may easily tend to careless living. As a matter of fact, some time since, many fraternities throughout the country bade fair to degenerate into drinking clubs. Within the last ten years this condition has been remedied by the attitude of self-respecting university faculties on the one hand and the action of the central committees of the various national fraternities on the other. I need not insist that a competent university management must and will find ways to suppress student drinking wherever or in whatever form it may appear. Dissipated men are centers of corrosion, and it is not worth while to waste educational energies on those who make bad use of them. This the German universities also have found out. Professor Eucken once spoke to me bitterly of the mischief done by "the beer philistine" and by returning alumni who claim that Jena has lost its "spirit" because the students are turning sober!

Downward tendencies

In general, moreover, scholarship standards are lower in the fraternities than among "barbarian" students. For this there are several causes. Greek Letter groups often choose their initiates before they really know them, and freshmen with apparent social availability often run the shortest course; strong men, on the contrary, usually ripen late and are seldom early picked as "winners." Fraternity men on the whole, also, are specially occupied with "student activities," which of course afford good drill in executive work, but should not replace mental training. The man who leaves college with the most exact knowledge and the widest horizon of understanding will keep ahead through life.

Fraternity standards

Finally, the occupants of a Chapter House fre-

Wasted energy

quently spend altogether too much time in loafing, smoking, playing cards, and talking in desultory fashion about things not worth while. Daudet says of certain men that "they sat around, they did not think, they did not speak — just smoked." The use of tobacco is a handicap to either teacher or student. Recalling once more the advice of Professor Swain, both should "let their competitors smoke." One thing, however, is perfectly clear: if the residents in any chapter fall steadily below par, something is wrong with its membership or its mode of life.

As a college teacher for forty-five years, and a fraternity man still longer, I do not condemn the system as a whole, because I know from experience that great good may come of it if all coöperate to worthy ends. For that, however, fraternities must first rise above their easily besetting sins — idleness, snobbery, lavish expenditure, and dissipation. As for the sororities, their standards are naturally higher on the whole than those of the young men. They are, nevertheless, affected by the same general problems, except, of course, those of dissipation.

4

I would by no means seem to imply that the evils mentioned above are, or have been, confined to the groups just under discussion. Various forms of individual deviltry due to an exaggerated or perverted sense of humor may break out at almost any time, anywhere. Andrew D. White, the first president of Cornell University, mentions in his autobiography two affairs on which I can throw a little light. The first was the printing and distribution of a so-called

"mock program," a disreputable document setting forth (in obscene fashion) the alleged peculiarities of the different participants in an approaching public performance. This poster was the work of one or two sophomores, and its purpose was to slur the freshmen. Having failed to detect the individual culprits, the president suspended all the officers of the class, although he was fully assured that as a whole they had had no share in the affair itself. As I remember, the students generally knew who wrote the poster; he was, in fact, one of the men actually suspended.

The mock program

Wholesome discipline

White's action stirred up opposition among the students, and as a contributor to the Cornell *Era* — the college daily — I was asked to write an editorial protesting against the punishment of innocent individuals for the sins of somebody else over whom they had no actual control. I wrote, but not what had been requested. My effort (somewhat vigorous, I thought) denounced the vulgar performance and all connected with it, and supported the president in his efforts to make it clear that public indecency would not be tolerated. The editor declined to publish what I turned in, but White's vigorous action put an end to that kind of performance.

The other case was distinctly unique. A student, Philip H. Clark, mature-looking and bearded after the fashion of his time, came before the faculty on the charge of impersonating a professor in a lecture given by him in Dundee, Yates County. Clark replied: "I did give a lecture in Dundee. I do not know what other people said, but I did not call myself a professor." And the faculty was obliged to let it go at that. But we boys knew that the

A student prank

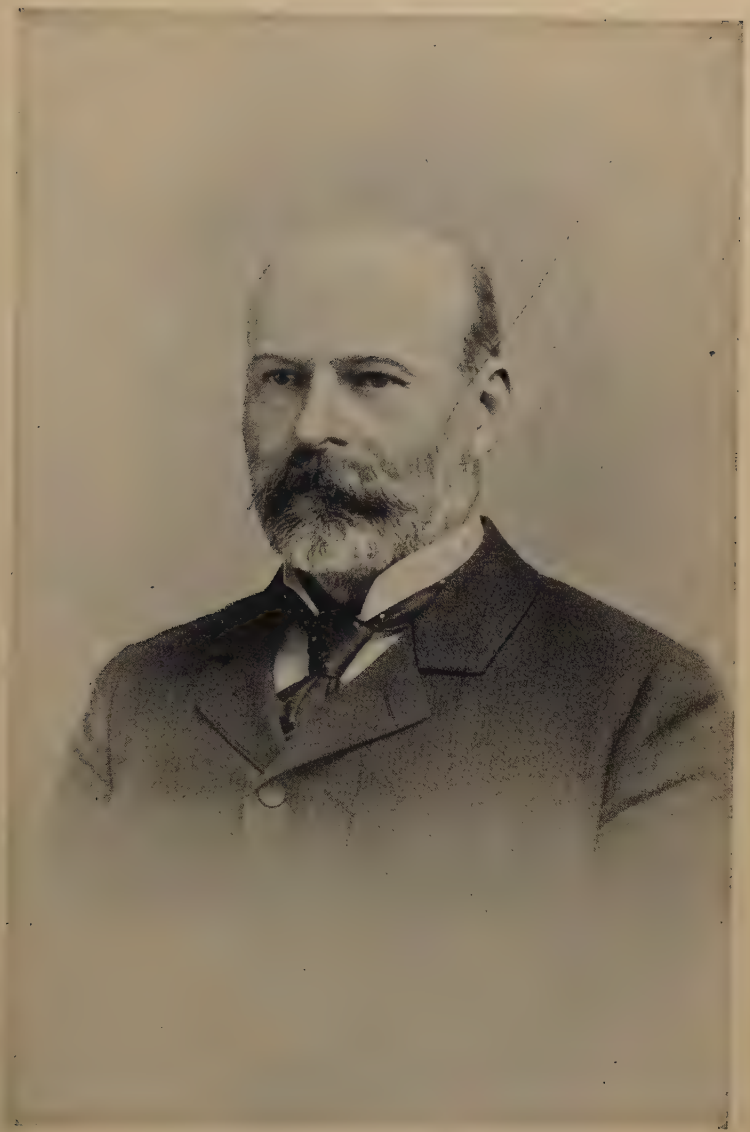
E. L. R. Moses

manager of the affair was one Eaton La Rue Moses, a remarkable youth, short, stubby, rosy-cheeked, red-haired, and round-faced, who belonged to the class of '73 and came from Dundee. Not exactly scholarly, he was nevertheless possessed of certain extraordinary kinds of cleverness. He had all sorts of uncanny information; he could write essays on any side of any question — he was in fact one of the college "characters." In 1871 he produced an essay on "What I Saw in Alsace-Lorraine." Of course he had never been there, but having read the newspapers, as he read everything, in omnivorous fashion, he was able to frame striking pictures and relate touching stories. He then persuaded Clark, himself a clever and reckless fellow, to deliver the essay as a lecture in Dundee, and had him billed as Waterman T. Hewett, a young assistant professor in the department of German.

When Clark was called up as I have related, he further exonerated himself by the plea that the people said his lecture was far more interesting than those of most of the Cornell professors they had heard — which was doubtless true.

Moses, being a printer by profession, drifted about after graduation from office to office, growing more and more rotund, taking on more and more the aspect of a Buddhist idol, until he finally settled in Jamestown, Chautauqua County. There he aspired to be "the power behind the throne" in local politics, and his views on all manner of topics were expressed in crisp and cryptic language, with a wealth of expletive Mr. Roosevelt might have envied. He was always the center of a more or less admiring group curious to know what he would say next and

A political sphinx



JOHN CASPAR BRANNER, 1896

who, at his death in 1918, paid him the honors due to a hermit philosopher who emerged at intervals to discuss worldly matters in current slang.

Three women pioneers

Cornell began with monastic traditions, and up to the fall of 1870 no women had carried on regular studies there; in that year, however, Emma S. Eastman, Sophy P. Fleming, and my sister Mary were allowed to attend classes, with the understanding that if at some future time women should be formally admitted to the university, their work should be counted toward a degree. As a matter of fact, in September, 1873, coeducation was formally established at Cornell, and Sage College, a dormitory for women built by Henry W. Sage, was opened for their reception.

All three of the pioneers were excellent students, and won the respect of everybody acquainted with them. Miss Eastman (Mrs. L. A. Foster) became prominent as a suffrage lecturer. Miss Fleming, a girl of delicacy and refinement, taught for many years; recently our acquaintance was pleasantly renewed when I found her acting as "house mother" in a sorority at the University of California. My sister, as I have said, married and thereafter devoted herself to home making.

Lack of social amenities

Our general lack of social intercourse with women, I have felt to be a real misfortune. Thrown back upon ourselves, we learned too little of the amenities of life; ignorance of the best conventions was therefore a distinct handicap with most of us for some time to come. For college men there is no other influence so wholesome as that of educated women, and there exist no conditions more favorable for the

choice of a life mate than are found in a coeducational institution. This of course is not the whole story, but to my mind the advantages both to men and women distinctly outweigh all incidental drawbacks.

The Mitchell sisters

Fortunately for me and several others, there was one cultured home where we were always welcome — that of three sisters by the name of Mitchell who lived in a red farmhouse beyond Cascadilla Creek. Our friendship with Miss Minnie, the youngest, now Mrs. Barnes, was wholesome and helpful at a time when social opportunities were scanty.

The paucity of womankind in whom we had an intellectual interest tended to turn our thoughts perhaps unduly toward what I then described as

> Glimpses of the golden future,
> Foretastes of the fair to-be,

"Era" poetasters

and tinged all our poetical effusions, whether serious or not. Four of us in "The Strug" — Leavitt, Anderson, Dudley, and I — had some skill in the making of verses, which we read at our weekly meetings, and often printed in the *Era:*

> Poets of the better era,
> Poets of the Cornell *Era*,
> Knock the spots all off from Shakespere;

so we stoutly asserted, before an incredulous world.

One of my efforts, entitled "To Minnie," was sung by her to the blithe tune of "Cocachelunk," an air then popular in college circles. The poem read as follows:

> In the castles grim and stately,
> In the halls where grandeur reigns,
> Stood of old the Mastersingers,
> Chanting high, heroic strains —

The Minnie-song

Notes which ring down through the ages,
  Wakening men to nobler life;
Urging them to deeds of valor,
  Raising heroes in the strife,

While the idle Minnesingers
  Sang in some fair lady's bower
Lovelorn ditties, soft and tender, —
  Songs to while the passing hour.

Merry lives they lived, and careless
  As a moth in summer's sheen,
Till they slept, and nature o'er them
  Loving spread her bedquilt green.

When a boy I dreamed that ever
  In the world's black moral night
I would be a Mastersinger
  Heralding the coming light.

But, alas for youth's ambition!
  Idly now I drift along;
And I'm but a Minniesinger,
  And my life's a Minnie-song.[1]

5

Many of our contributions, however, were in serious vein. Dudley in particular wrote some things that were really fine. And Anderson's flights were for the most part distinctly literary, harking back in a degree to the Miltonic manner and fairly presaging his masterpiece, a translation of the "Divina Commedia" in its original *terza rima*. Leavitt's verse was pleasantly human, dealing gently with current affairs. For example:

[1] It should perhaps be added that our good friend was some years older than any of us, her devoted admirers.

Grove life is pleasant, and methinks
These lines may serve as swift-forged links
Unpolished but with greater power
To hold, each set, its pleasant hour
Safe from Oblivion's wasting touch
And selfish Care's corroding clutch.

Of my verse Anderson used to say that I often started in to make a beautiful picture and then threw mud at it, that being his interpretation of my sense of humor. It is true that most of the lines I then wrote were farcical. I made, however, some serious metrical translations, especially of lyrics by Goethe. In the last term of my senior year I was chosen class poet and acted in that capacity on Class Day in Commencement Week. On that occasion I read "An Arthurian Legend," a humorous epic detailing the adventures of one Arthur B., a classmate, "late of Bedford, England," on his way to a birthday party staged at Free Hollow, some miles out in the country, on a furiously rainy night, the first of April.

A birthday party on April 1

The class song previously chosen was for some reason rejected on the morning of the very day. The committee then ordered a new one to the tune of "Araby's Daughter," shutting up Copeland and me in separate rooms, each with instructions to produce a set of suitable lines. Mine happened to meet with favor, the burden being:

We love thee and honor thee ever, Cornell.

Upon leaving college, for the next fifteen years I wrote no more verse, a few whimsical effusions excepted. But shortly after my second marriage in 1887 I was impelled to work out some serious thoughts in poetic

form. A few of these, representing a narrow vein of fancy, have always seemed to me worth while.[1]

Music a closed book

Real poetry (as distinguished from mere verse) has always had a compelling hold on me. Music, unfortunately, has been more or less of a closed book, though I take delight in what may be called "Songs in Words of One Syllable." Ballads, old or new, minor laments of oppressed races, — all direct appeals from the heart of man or nation, simply and nobly phrased, — stir me as they do others. Recently the setting to music of some of my own lines by an accomplished composer, Herman T. Koerner of Buffalo, has given me a special pleasure. But the intricacies of chamber music and the like, "the structure brave, the manifold music" of Browning's "Abt Vogler," fail to touch me.

During my college course three poets, Browning, Emerson, and Lowell, strongly appealed to me. To a degree, also, I found satisfaction in Longfellow, Holmes, and Brownell. Of foreign poets, Schiller pleased me most; his dramas well repay the agony incident to German syntax.

Favorite poets

Of Browning (as well as of both Emerson and Lowell) I already knew something before going to college; a tiny volume entitled "Lyrics of Life" had fallen into my hands, and profoundly impressed me, though parts of it were grievously obscure. At that time one of our neighbors, a Scotchman named McIntosh, wrote a doggerel review which I thought then (and still think) had a certain value:

[1] A number of my poems, written at intervals and mostly while at leisure on the sea or on trains, have been privately printed (but never published) under the title, "To Barbara, and Other Verses."

"Lyrics of Life"

"Lyrics of Life" by Robert Browning, —
"Confound the thing," said my neighbor, frowning;
"I've read at 'em, dug at 'em over and over,
But hang me if I can discover
A glimmer of meaning from cover to cover!"

My neighbor's disposed to be dull, however.
I sent to Boston at once and got one.
The frontispiece is attractive, very; —
Six little girls, the largest is reading.
If she understands it, then ought one
Older than all of them put together
And still have a dozen years to spare.

Nevertheless, our critic finds himself almost as baffled as his neighbor, though he does make some exceptions:

Count Gismond, Evelyn Hope, The Glove,
A flight on Fame, and some stanzas on Love —
How they brought the news from Aix to Ghent,
Though the errand which sent
Roland away on such headlong speeding
I've yet to learn, 'tis not told in the reading.

But that is all, let the Lyrics be hooted;
Never were sentences so involuted
And twisted and turned, so all unsuited
For simple folks! Let the Lyrics be bruited
And burned and booted and tossed sky high! —
The critic relents
No, not all of them! Beautiful Evelyn,
Nothing more tender for souls to revel in —
Reading that over has made civil, and
I spare 'em all for Beautiful Evelyn!

Entering the university, I found Browning generally appreciated there. Anderson especially took great satisfaction in him, and we used to read together "The Flight of the Duchess," "A Toccata of Galuppi's," "Love among the Ruins," "Andrea

del Sarto," and other poems which illumined places we hoped some day to visit. But I never felt that the labored crabbedness of Browning was an element of strength. In a poem on Florence written a few years ago I referred to the two of "Casa Guidi" who as

> Singers of all time
> Wrought deathless themes
> In jagged rhymes.

Among Lowell's poems those which most impressed me were "The Present Crisis," "The Washers of the Shroud," and "The Biglow Papers."

Emerson's "Boston Hymn" particularly appealed to my adolescent, inherited instinct for moral exhortation: *The "Boston Hymn"*

> The word of the Lord by night
> To the watching Pilgrims came —

and so to me it came.

> God said, I am tired of Kings,
> I suffer them no more;
> Up to my ear each morning brings
> The outrage of the poor —

were lines that made upon me a deep and lasting impression, as did also the warning which follows:

> In daylight or in dark
> My thunderbolt has eyes to see
> His way home to the mark.

Among prose authors my reading in college was extensive, as much so as circumstances would permit. At the Grove we read all the Bret Harte stories that had already appeared, and in my junior year I ventured on a little lecture tour to neighboring *Bret Harte*

towns, delivering a talk on Bret Harte and the Sierras, which I termed "The Men of No Account." [1] As a talk it was none too coherent, and it doubtless went over the heads of the people; but it enabled me to say some things I then thought true, and probably some of them really were. On one occasion I heard a critic declare: "There is too much *sang-froid* in his talk — too much sing-song, you know."

Thoreau

But of all authors who influenced my thought and writing while at Cornell, I should put Thoreau first. Something about his crisp, crystalline sentences always appealed to me. His love of nature, his sharply defined silhouettes of the beasts and trees, especially his appeals for personal freedom, made on me a profound impression. His address on John Brown, for example, affected me more than any other political writing whatever; not so much because of the tragedy which called it forth as for the illumination thrown by it on Brown's life, death, and purpose — the suppression of all thought of self, by which the man became "Old Brown no longer, but an Angel of Light."

Andersen's tales

Curiously enough, another writer who influenced me was Hans Christian Andersen. The simple, gentle phraseology of his fairy tales suggested a style which I have sometimes used for children's stories as well as for grown-up satire.

Beauties of nature

One other great source of inspiration, not alien to that derived from good literature, lay open to us in the natural beauty of environment, especially in the three fine months of our New York year, May,

[1] At about the same time Anderson went among the people with a lecture on Milton, walking home four miles one night with a package of shirts in lieu of a fee.

June, and October. With spring came flood-tide in the waterfalls and a burst of flowers in the ravine, melting blue vistas down the lake, and long stretches of green in the south-lying valley. Later when

> . . . Autumn came
> And laid his burning finger on the leaves,

we rejoiced and were glad. Tingeing our every memory of Cornell is the ineffaceable charm of the University's setting.

6

During my college course a number of money prizes were offered for excellence in different subjects. I tried for three of these, and for different reasons failed to secure any of them. The first was offered in Botany in my first term. My knowledge of the subject matter then far outran my experience in writing examination papers, and the prize went to a classmate who reversed these conditions.

Prize in Entomology

The next prize was one in Entomology. But by the committee's decision three of us had done equally well, and the money was therefore to be equally divided between Frederic W. Simonds, a geologist, now professor in the University of Texas, Comstock, and myself. "Simonds had made the neatest and most accurate drawings, Jordan had written the best paper, and Comstock seemed to know the most about the subject."

Simonds and I now held a conference. We two had money enough in sight for another college year — not clearly visible, to be sure, but plain to the eyes of hope. Comstock was already feeling

the bottom of his pocket. But he couldn't afford to leave his insects to go out to make money, and we couldn't afford to lose him. Besides, he deserved the prize, for it is better to know animals than to write about them nicely or to adorn one's knowledge with fair pictures. So we stood back and let him have the money he needed and had really won.

Prize in History

The third prize was offered in my senior year in Modern French History, and we were informed that no award would be made unless at least five persons presented themselves for competitive examination. As a matter of fact there were just five possible candidates. One of these (a young fellow who afterward became president of a so-called "American University" which offered paper degrees in Australia and England) had borrowed all my elaborate notes on White's lectures, and combined them with his own. He then asked especially that his notebook might be considered in the competition. This request involving a patent unfairness, I went off to the glens on the day set for the examination, which was accordingly not held.

Personally I do not believe that universities should offer prizes for work, or should grant honors of any kind if these are viewed purely as a stimulus to scholarship. No scholarship worthy the name rests on outside rewards; every true student works for the sake of knowledge. If he competes for prizes — a legitimate proceeding, of course — it is probably because he needs the money, not the stimulus. And soon after our day the custom was abandoned at Cornell, as it did not fulfill the expectations at first entertained by the president.

Custom abandoned

CHAPTER FOUR

I

Andrew D. White as university president

The new institution had begun its work amid great enthusiasm and as a fountain of educational hope. Dr. Andrew Dickson White, its leader and president, was then only thirty-six years of age. Because of his short height and rather slender build, I used to say that he was "a little man who looked as though he might have been big if he had wanted to," for he gave the impression of entire competency. He was an effective and impressive speaker, with a ready command of choice English. His addresses in defense of what we afterward called the "democracy of education," as well as those in favor of religious freedom, were classics of their kind. His relation toward students was always delightful, and he had a special genius for group inspiration — that is, for influencing a large number at once toward higher aims. I doubt if any other American university executive has been his equal in these regards. Even President Eliot, with his great intellectual power, keen, analytical discrimination, and accurate scholarship, seemed to lack somewhat in personal sympathy.

Possessed of ample means, after graduating from Yale College White spent three years abroad in study and travel, returning to fill, for seven years, the chair of History and English Literature in the University of Michigan. While at Ann Arbor he was deeply impressed by the educational ideals of the distinguished first president, Dr. Henry P.

Tappan, who, more than any one else, fixed the purposes of our state university system. In 1864, during another visit to Europe, he did loyal service in behalf of the Union cause, especially in England.

News of his nomination as state senator for his native town of Syracuse, New York, now recalled him to America. During his subsequent service in the state senate — of which he was the youngest member — he came into close association with Ezra Cornell — the oldest — whom he gradually brought into sympathy with his own educational ideals. These relations, which ripened into a warm friendship, led to results of the highest importance. After a long and bitter fight against adverse interests represented in the legislature, the details of which I need not discuss, the state accepted Mr. Cornell's gift of a commanding college site at Ithaca on Cayuga Lake, supplemented by the sum of $500,000 as the nucleus of endowment for the proposed university initiated as a result of the Morrill Act of 1862. This federal statute, the work of Senator Justin Morrill of Vermont, provided for the founding in each state of an institution which should give instruction in Agriculture and Mechanic Arts in addition to the usual courses in the Liberal Arts and Sciences. To that end each state was awarded its quota of "scrip." [1] In nearly every case, unfortunately, scrip was sold cheaply, "on a glutted market," without effort to locate land. But Cornell University, despite a pressing need of funds in its

Ezra Cornell

The Morrill Act

[1] Official warrant for the possession of unoccupied or unsold government land, at that time mainly confined to the region west of Lake Michigan. Under the Morrill Act, scrip was distributed on a basis of representation in Congress — that is, according to the relative population of the various states.

ANDREW DICKSON WHITE, 1868

early development, held on to the New York allotment of 700,000 acres. This it was enabled to do through the unselfish interest of Mr. Cornell, who first selected the tracts with excellent judgment and then advanced large loans upon them. Millions of dollars were thus saved to the university, though Mr. Cornell was violently attacked on the ground that he was "planning to rob the state, seeking to erect a monument to himself." Concerning these wanton slanders, he merely remarked that he was "glad they were made in his lifetime," for such attacks are hard to answer later on. The Morrill lands being finally sold at a good price, the institution was firmly established with great potential resources, following which, on the founder's advice, White became its first president.

Mr. Cornell's devotion

2

The early years of my Alma Mater, though relatively crude and cramped, were enriched by an enthusiasm hard to maintain in days of prosperity. And the pioneer impulse far outweighed, to our minds, any deficiency in coördination, equipment, or tradition. At that time we were all young together, freshman students, freshman professors, freshman president, without experience, or tradition to guide or impede. But we had youth and we had truth, and not even the gods have those!

Pioneer enthusiasm

It was a favorite theory of Ezra Cornell that students should be able to pay their way by manual and other labor; and in the beginning, therefore, we

Student employment

were encouraged to work at grading and the digging of ditches for fifteen cents an hour. Most of us proved to be fairly good at our jobs, though some found that they involved too great a draft on time and strength. A certain number, however, persisted, and so carried themselves through college, and the report that a student without money could pay his way soon brought to the new institution very many extremely able men. There higher education was no longer an expensive luxury, a privilege of the rich; nor yet a matter of charity, a dole to the poor.

Digging for the foundation of the McGraw Building, we pioneers often saw Mr. Cornell, a tall, spare man, grave and kindly, with characteristic dry humor — a Lincolnish sort, "paring down his speech to keep a reserve of force and meaning," as Thoreau said of John Brown.

Democracy of the intellect

At the outset Cornell had declared: "I would found an institution in which any person can find instruction in any study;" this revolution in higher education it was White's duty to carry into effect. Not that the university could or did teach literally everything, for no institution has ever yet been rich enough to undertake such a task. The important thing was the recognition of "the democracy of intellect," the solid basis of the elective system. Then for the first time in the history of education, perhaps, the aristocracy of discipline was officially and successfully challenged. The student was not to be driven over a prearranged curriculum, or "little race course," which should entitle him at the finish to a time-honored badge of culture. On the contrary he was to have access to that particular

form of training which would most strengthen and enrich his life; whatever his capacity for usefulness, it should have the right of way, and he himself was to be the judge. All students and all studies, therefore, were to be placed on an academic equality, for what will nourish one may not serve for another. But the university was of course to ensure that each subject be sanely and lucidly presented, and each piece of work be honestly and loyally done. Because the new institution thus stood fundamentally for the rights of every human faculty, men came from all over the nation to its pioneer classes, especially in Natural Science. Meanwhile, however, things of the spirit were not forgotten; Lowell, as well as Agassiz, came as lecturer at the very beginning. And at White's request Lowell wrote the lines inscribed on the great bell Comstock used to ring every morning:

Things of the spirit

> I call as fly the irrevocable hours,
> Futile as air, yet strong as Fate to make
> Your lives of sand or granite — awful powers:
> Even as you choose, they either give or take.

The young president cherished, moreover, a special faith in noble architecture as a means of culture. Some day he hoped there might arise on the old Cornell Farm groups as fine as those that cluster about the towers of Magdalen, and a chapel as exquisite as that of King's College. He had faith also in the inspiration of personality in the classroom. So the current grind of daily recitations, with its petty marking system, gave way to laboratory and lecture, and the old plodding and prodding which smothered all interest in teacher and taught

yielded to real contact with objects and ideas. In White's words, the traditional college of the day was

> as stagnant as a Spanish convent, and as self-satisfied as a Bourbon duchy . . . [its] methods outworn and the students as a rule confined to one simple, single course, in which the great majority of them took no interest.

Coöperation in education

Another novel feature, already suggested, was the presence of men from sister institutions as non-resident professors. Agassiz and Lowell, both from Harvard, visibly represented coöperation in education, though before White's time universities were prone to regard themselves as competitors. And Agassiz once told me that a Harvard overseer reproached him for his labors at Cornell, saying that he and Lowell were "traitors to Harvard" in thus helping to build up a rival institution. Fortunately those two big men did not thus narrowly interpret academic duty. Nor did White himself; and he urged graduates of early days to "stand by the state universities, for in them lies the educational hope of the republic."

Coeducation

Coeducation, then gaining a scant foothold, chiefly in the West, also entered into his plans, as I have already made clear. For he firmly believed that men and women could develop together intellectually to their mutual advantage — men thereby growing more refined and sensitive, women more sane and self-contained. In like manner engineers and literary students, he thought, would also help each other, the former gaining by contact with spiritual ideals, the latter through acquaintance with immutable fact.

He also often said, in substance, that

> he most precious possession of any nation is found in the alents and genius of its youth, all other matters of politics nd government being comparatively of little moment. Even vere all natural talent saved and augmented, we should still nave none too much of it in the land. Then give it a chance. The university should be open to all, helpful to all, without egard to caste, sex, color, or condition.

Liberalism at Cornell

Furthermore, in the matter of religion also, White ook an advanced position distinctly rare at the time, when most of the colleges were under some orm of denominational control and purely secular ducation was viewed with suspicion. It was a general custom, therefore, to denounce Cornell as 'godless," the final argument with many, and to abel its president as a foe to religion because he dvocated the absolute separation of education from ectarian bias as well as from domination by any raditional form of discipline. To such minds, the oftier the character of a man who stood outide the church, the greater menace he. In their yes, consequently, Emerson — Lincoln even — was stumbling-block.

Cornell's position was clearly defined. White loquently defended religious and educational tolerance, as did also Goldwin Smith, — one of our first nd ablest professors, — who came from Oxford. Among other gifts made by the latter to the university is a stone seat inscribed with the motto, 'Above all sects is truth" — twin to Goethe's amous phrase, "Above all nations is humanity." The gripping power of these doctrines lay in their mbodiment in human personality; they were lived efore our eyes.

3

Meaning of Alma Mater

Another factor, characteristic of British and American institutions generally, strengthened the bonds which united professors and students at Cornell. This may be defined as sympathetic coöperation. It lies behind the endearing term "Alma Mater," which I never heard used for a German university. Goethe, indeed, spoke of Jena as "*liebes, närrisches Nest.*" But Jena in those days was a center of student debauchery, and the "dear, foolish nest" abounded in costly folly. Some one once asked a student from the University of Prague if he loved it. "Love it! No, I hate it!" "And why?" "Because it's a State affair." But with the American conception of the State as a coöperative commonwealth, educational relations are wholly different, and the state university is thought of as "Alma Mater" by thousands of men and women. Having behind it no element of the compulsory and its degrees not essential to professional advancement, it stands in a very different relation and is loved by its alumni quite as warmly as Harvard or Yale. The University of Prague, a creation of soulless officialism, has as a whole no personality. It could no more be the object of love than a post office: it serves mainly as the door to professional preferment.

Looking forward

A second great advantage possessed by American institutions is that they are never complete, but always look forward to something better. This gives a perennial impulse toward progress. The German university, on the contrary, is from the first a perfect representative of its type, with practi-

cally no hope of betterment. In 1871, Willard Fiske, professor of German and a believer in German efficiency, wrote for the Cornell *Era* a discouraging comparison between the newly founded institution at Ithaca and the University of Berlin. Prussia and New York State were then about equal in territory and not far apart in wealth and population. Berlin emerged full-fledged from the very first, with adequate libraries, laboratories, and faculties; there was no hesitation, delay, or parsimony, no need to wait to consult or persuade the people. Cornell began in the mud of a poor hill farm on the edge of a country village, with a group of boy professors, few books, no traditions, and no achievements, its growth dependent on the uncertain will of a self-governing commonwealth. It thus started far behind Berlin and was steadily losing. Three years had passed, three laps in the course. "The race is on," said Fiske; "who bets on the Empire State?" *Cornell and Berlin*

Today Cornell has passed her fiftieth lap, and is stoutly forging ahead; her gains in wealth, prestige, influence, — most of all in active efficiency, — are above cavil. Already her sway over the world of thought and action outranks that of Berlin. She has no apology to make to any one. As for me, I "bet on the Empire State!"

The severe limitations bounding German education are shown in the subordination of the university to the *Kultur* system of which it is a part. Once at Stanford, discussing university organization, I touched on the apparent anomaly that in America, the land of democracy, a university head has autocratic powers, while in Germany, the fountain head of autocracy, the Rector — as they style him — is

chosen by his fellows and has practically no authority, whatever slight control he does exercise being delegated by his colleagues. These remarks of mine came somehow to the notice of Dr. Rudolf Virchow, the distinguished physiologist. Later, to one of my audience, Dr. H. Rushton Fairclough, then at work at the University of Berlin, Virchow said:

Autocracy in the German university

You tell Dr. Jordan that I think he is mistaken. No greater autocracy exists in education anywhere than in the Prussian universities. But arbitrary power is vested in the Minister of Public Instruction, not in the Rector, who is mainly an honorary figure. Each professor is regarded as an agent of the government.

Sectarian colleges

Through most of the last century, American colleges had served as agents for the spread of denominational religion. Indeed, it was not an uncommon thing for college presidents to plead that if you let your college die, your church would die, too. But as many of the collegiate institutions were quite imperfectly endowed, they were not able to maintain adequate standards; and while they boasted that their small numbers permitted close contact between students and professors and so brought the young people directly under moral and religious influence, the very opposite was often the case. When teachers are few, ill trained, ill paid, and worn out, their personal hold over youth may be very slight. Dependence on fees, moreover, tended to laxity in regard to both scholarship and behavior, for to dismiss even a single student meant the loss of needed money. And for the purpose of advertising, many weak institutions boasted of their attendance, as though relative worth could be measured by enrollment merely. Occasionally, also,

such claims were dishonest — as, for instance, when college catalogues were padded by including scholars in a preparatory or grammar school, or (in one case of which I knew) even children taking private lessons in music!

White in his autobiography graphically describes his early exasperating experience at Hobart College, a small denominational institution at Geneva, New York, from which he went on to Yale; but Hobart, with all its patching and fitting, was by no means one of the worst of its class. And the gradual introduction of the elective system, however unwelcome, worked a great change for the better even in such colleges, because it enabled the student to select the subjects he wanted, and especially the men who held his attention. Under the old plan even at Yale, as White so clearly shows, real teachers and eminent scholars worked at a great disadvantage, being compelled as they were to hear and mark daily the recitations of "reluctant students." To condemn the elective system, therefore, because it does not make a scholar out of every youth it touches is to show little conception of the rank failure of the old régime. Those who have criticized President Eliot's unreserved adoption of the new one at Harvard forgot or never realized the intellectual lassitude among young men submitted to a prearranged discipline awakening no interest and with no visible relation to present tastes or future career. Volition or vocation — one or the other — is the backbone of all real scholarship. Men and women draw mental nutriment only from what their minds assimilate. Scholars must make themselves, and find joy in the process.

The elective system

Scholars self-made

Under the old system of prescribed studies and daily marking, the hurdles to be leaped during the four years' race consisted mainly of successive books of Greek, Latin, Pure Mathematics, and Philosophy. No wonder the lads who had thus suffered together used to meet at midnight to burn Euclid or the Anabasis! But do the young fellows of today ever burn their libraries of history, science, or engineering?

From the first Cornell Register, 1868–69, I quote the following:

> The idea of doing the student's mind some vague, general good by studies which do not interest him, does not prevail. The variety of instruction offered enables him to acquire such knowledge as is likely to agree with his tastes, encourage his aspirations, and promote his work in life.

Repudiation of prescribed courses

The general change from prescribed courses to the elective system led to the enormous increase in university attendance which began in the '90's and is so conspicuous at present.

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When Cornell opened, the president, remembering the great influence for good he himself had derived from the lectures of eminent scholars, arranged, as I have said, for a series of non-resident professors: Agassiz, Lowell, George William Curtis, and Goldwin Smith (who decided to remain permanently with the institution); afterward Bayard Taylor, John Stanton Gould, and others. Agassiz, whom later I came to know well, was there before my arrival; but to all the rest I was privileged to listen as a college student.

A more charming speaker than George William Curtis I have never heard. His was said to be a

"silver tongue," and his gracious lectures on the living writers of England, especially Thackeray, Dickens, and Carlyle, made a vivid and lasting impression. His independent political stand, moreover, influenced us profoundly. As a Republican he courageously opposed the spread of the spoils system in his party, thus becoming the recognized leader in civil service reform. I well remember his saying at the National Convention of 1872: "I went into this convention a free man, with my own head under my own hat, and a free man I mean to come out of it!" That proclamation marked the breach between "Mugwumps" and "straight" Republicans, a movement which led in 1884 to the defeat of Blaine as representative of the "Stalwarts," or thick-and-thin partisans.

George William Curtis

Lowell was a broad-shouldered, energetic, noble-looking man with a bushy, red-black beard and a very pleasant voice. But his lectures made less impression on us than those of Curtis, notwithstanding the veneration in which we all held him — chiefly because his topic, Early French Literature, dealt with less familiar subjects.

James Russell Lowell

Speaking of Curtis and Lowell — close friends — I distinctly recall two incidents which occurred soon after my arrival at Cornell. As I walked one day across the fields beyond Cascadilla Creek, I spied two men in shirt sleeves lying under a tree. Not recognizing either at first, as their lectures had not yet begun, I joined them for a friendly chat. Afterward, greatly elated, I went straight home and wrote four lines of verse (or what I thought to be verse) reminiscent of Browning's "And did you once see Shelley plain?"

Once in his shirt sleeves lying in the grass,
Under the shadow of a chestnut tree,
I saw James Russell Lowell face to face,
And the great poet rose and spoke to me![1]

Not long after, attending service at the Unitarian church, I was ushered into the same pew with Lowell — "a seat among the gods," it seemed to me.

Taylor and Hughes

Bayard Taylor gave a most interesting and instructive course on Early German Literature. Another delightful visitor was Thomas Hughes, author of the famous "Tom Brown" books. At the Cascadilla reception which followed his address, I first helped pass around strawberries, ice cream, and cake, after which I put my apron in my pocket and became a guest.

In the field of History — which deeply interested me, not as a record of battles and intrigues but as the "biography of man" — we had excellent instruction. Ancient History was taught by William Channing Russel, the vice-president, whose lectures were both effective and well planned. More appealing to me, however, were White's courses in Medieval and Modern History. These covered particularly the later years of France, including the French Revolution; they were accompanied by an extensive syllabus, with bibliography. White, as I have indicated, used language in a noble fashion, choosing words of dignity and strength, and leaving sentences to linger in the memory. His lectures I therefore took down very fully, writing them out so that the

White's lectures

[1] It is hardly necessary to add that his companion was George William Curtis.

product bore at least some resemblance to the original, and deriving great pleasure in the process.

Goldwin Smith

The lectures by Goldwin Smith on English History were immensely helpful. Because of a sort of detached attitude, he was not as inspiring as White, but his judgment and dignity of character impressed us strongly. He was the first, and for years the only, British Liberal with whom I came in contact. During the last of my college course I got well acquainted with him, and we maintained an intermittent correspondence until toward the time of his death at Toronto in 1910. During the Philippine War he wrote me that he thought our American fever for imperialism and expansion "contained a very large element of sheer vulgarity; at bottom, the desire to get in line with the worst elements of Europe." To all of which I then assented, and still assent.

George W Greene

As for courses in American History, we were not so fortunate, though it was one of White's cherished ideas that Cornell should take the lead in that branch. The high schools generally taught something of it in an elementary way, with partisan and patriotic basis, but no college had previously provided for serious study of our democracy. In 1871, therefore, White selected Dr. George Washington Greene (grandson of General Nathanael Greene of the Revolutionary War) as professor of American History. This amiable gentleman read his lectures in a monotonous voice and most uninteresting manner. Soon he was discovered to be using a printed book, his own story of the Revolution. A few members of the class then bought the text, and nobody paid any further attention to the reading.

But as befits a new institution, most of the professors were active young men chosen with rare judgment by our youthful president. Notable among them were two of Agassiz's students at Harvard, C. Frederick Hartt in Geology and Burt G. Wilder in Zoölogy. Hartt was a most interesting man, with rare quality as a classroom lecturer and unusual skill in gaining the trust and affection of students. About 1870, following Agassiz's expedition to Brazil, Hartt was asked to take charge of the geological survey of that country, a work upon which he entered with enthusiasm. Returning to Ithaca, he brought back many fossils and other materials for study; on some undescribed Brazilian brachiopods which we made out to be of the Helderberg period, I got my first experience in Paleontology. Then from among his Cornell students he proceeded to organize an eager staff: Branner, Rathbun, and Orville A. Derby for Geology; Herbert H. Smith for Geography; and myself for Botany.

Hartt

Survey of Brazil

Leaving again for South America, accompanied by the others, he arranged for me to follow after graduation. I never went, however, as his death occurred not long after. Branner then succeeded him as geologist of Brazil for about seven years, coming back to graduate at Cornell and to take part in the geological survey of Pennsylvania. From that service he was called by me in 1885 to the chair of Geology at the University of Indiana. Rathbun also spent several years in Brazil; on his return to this country he first entered the United States Fish Commission, but was afterward made assistant secretary of the Smithsonian Institution and director of the United States National Museum, a joint

position he retained up to the time of his death in 1918. Derby remained permanently as director of the Museo Nacional in Rio de Janeiro, where he died in 1916. Hartt used to say that he had made at least one great discovery in going to Brazil, and that was Derby! *Derby*

Wilder's special interest concerned the comparative anatomy of nerve structures. Very methodical, though at the same time original, even unique, — sometimes to the verge of eccentricity, — he was strongly opposed to competitive athletics, to political partisanship, and above all to the use of tobacco and alcohol. He was an excellent lecturer, admirably clear and absolutely fearless, and my training with him was most valuable. Our relation ripened into a lifelong friendship. *Wilder*

Dr. Charles A. Schaeffer, professor of Chemistry, was an excellent teacher and well liked by his students in spite of a strong personal resemblance (no doubt cultivated) to Napoleon III, whom we cordially detested! For with most other Americans of that day, we glorified Bismarck and regarded Napoleon as a tyrannical usurper. Larger knowledge, including the former's revelation of his shameless Ems telegram, has since shifted our point of view. And the initiation of the Great War seems now but a natural aftermath of Bismarck's policy of "blood and iron." Schaeffer afterward became university dean, a position in which he was generally popular but which he resigned to accept the presidency of Iowa University. *Schaeffer*

Another scholarly teacher whose classes I enjoyed was T. Frederick Crane, instructor in Romanic Languages, from whom I acquired a reading knowl- *Crane*

edge of both Spanish and Italian, and whose friendly interest was quite helpful to me.

Prentiss Albert N. Prentiss, professor of Botany, my immediate superior, was also a very kind friend. In my junior year (1871), at his request I was made instructor in the department, a piece of good fortune which enabled me thenceforward to pay all my college expenses without recourse to less congenial work. The fact that I was still an undergraduate and only twenty years old caused the appointment to be criticized by the college journal at Yale. But I was no novice in dealing with the plants of the region; indeed, to speak frankly, I knew the Eastern flora better than most professors of Botany. In my classes were a number of men since distinguished in natural science, — Dudley, Branner, Comstock, Kellerman, Lazenby, Fairchild, and Henderson, — besides others, Anderson among them, whose closest interests lay along different lines.

General courses Botany I had made my major subject, with Geology and Zoölogy as what would now be called "minors." But I also elected all the History courses as well as all those in French, German, Spanish, and Italian, besides a brief course in Chinese. Knowledge of modern languages has always seemed to me necessary to any just view of the modern world; to my original acquisition, I ten years later added Norwegian, which I think one of the most interesting of all, as the close-shackled German is the least so. Mathematics I followed through the required courses only, having no taste for abstract speculation, of which the higher derivatives of Algebra are the quintessence. In Inorganic Chemistry I took and enjoyed all that was offered, so that Schaeffer

urged me to become a chemist; of Physics but little, however, as the instruction in the latter branch was discouragingly bad, one teacher being trivial and noisy, his successor as dry as a bone.

In the English Literature courses I enjoyed the fine and sympathetic readings of Hiram Corson, but systematic instruction had failed to "strike its gait." As to that, I well remember the very first lecture I heard at Cornell. This was by Corson's predecessor, Colonel Homer B. Sprague, then an ambitious young man with a fine war record and the special glory of having escaped from Libby Prison. Sprague began, "James Thomson was born at Ednam, near Kelso on the river Tweed in Roxburgh County, Scotland," continuing with further details which we faithfully noted down. We soon learned, however, that all such matters were to be found in the handy compendium from which they were probably gleaned. *Sprague*

Another of Sprague's courses, it is only fair to say, was more illuminating. It dealt with word roots which we had to dig out for ourselves. Our first task dealt with the sentence, "We do not expect savage sarcasm from the apostles."

As to drill in writing English, I got no help from classwork, the instructors being men who had little worth saying, and said that little mechanically.

The three and a half years I passed at Cornell exerted a controlling influence over my whole subsequent career. My friendship with President White afterward opened the door to the experiences

of half a lifetime in California. Several of my undergraduate intimates became my associates and coworkers for more than a quarter of a century. In retrospect, our doings at "the Grove," in the forests and the gorges about Ithaca, crowd on my mind so that I might go on indefinitely with incidents dear to memory. Somewhere, however, a stop has to be made, and I must pick my way out into the cold world. But while closing this recital of student days, I shall here venture to anticipate some of my other relations to Alma Mater.

Entering the university in March, 1869, as a belated freshman, I was able in June to pass all the prescribed first-year work except that in Physiology, — which I had never studied, — so that upon my return the next fall I was admitted as a regular member of the sophomore class. During the three years which followed I completed all requirements for the degree of Bachelor of Science, besides about two years of advanced work in Botany. Taking this last into consideration, the faculty conferred on me at graduation in June, 1872, the advanced degree of Master of Science instead of the conventional Bachelor's Degree received by the rest of the class. This seemed to me at the time a perfectly natural thing, as I had done all the required work for the higher honor; but it was afterward voted not to grant any second degree within a year after that of Bachelor had been received. I was thus placed, quite innocently, in the position of being the only graduate of Cornell to merge two degrees into one.

Master of Science

My Master's thesis, "The Wild Flowers of Wyoming County," to which I have previously referred,

DAVID STARR JORDAN AT GRADUATION, 1872

was accompanied by botanical and soil maps and an explanation of the four or five floral districts comprising that upland region of glaciated valleys and moraines. At the formal Commencement exercises I read an essay entitled "The Colors of Flowers." The front of the old Library Hall (of Ithaca) being crowded to the limit, it was difficult for me — as first speaker — to get through to the steps at the side of the stage. Passing, therefore, from my place in the audience, I put a hand on the platform and leaped to position! This direct method was, of course, a bit unconventional, and when I had finished, the president signaled to me to leave by means of the steps and thus return to my seat as best I could. *Graduation*

In this connection I may refer to the final degree conferred on me by Cornell, that of Doctor of Laws in 1886, when I was again unexpectedly the recipient of an unusual honor. In the original organization of the university White had decreed that no honorary degrees should be granted. His successor, Dr. Charles Kendall Adams, did not sympathize with this restriction, and securing the assent of faculty and trustees, arranged to confer the degree of LL.D. on Mr. White and on me. Meanwhile a considerable number of alumni, myself included, had filed a protest against the proposed change in policy. Both degrees were, however, publicly awarded, notwithstanding my own absence. I then wrote immediately to Adams, declining the honor; but he urged me to accept it as a personal favor to him, circumstances being what they were; and thus the matter stands. Afterward, in deference to a strong feeling among the graduates, the practice was dis- *Doctor of Laws*

continued before any other honorary degrees had been granted.[1]

Alumnus trustee

In 1887 it became my privilege to serve Cornell University in the capacity of alumnus trustee. Mr. White was the first and natural choice of the voting graduates, but it was later arranged that the board should itself elect him to their body, leaving the alumni to fix on some one else for the second vacancy. That honor thereupon fell to me, and I was unanimously chosen for the term of five years.

The following June, according to custom, I presented a report on the condition and outlook of the institution. This statement I had prepared with much care; it was received with general favor, especially for its educational philosophy which White strongly approved, as will subsequently appear.

As a member of the board when the Law School was founded in 1887, I tried to prevent what I felt to be a serious academic error, the adoption of the low standards which unfortunately prevailed for some years. Judge Douglas Boardman, himself a trustee, had been selected as dean, and his ideal seemed to be to reproduce the old Albany Law School, of which he had formerly been head. Consequently, the committee engaged in organizing the new department proposed to set up practically no conditions for admission beyond good moral charac-

[1] I still believe that every academic degree should represent work actually done in or under the direction of the institution granting it. At the outset, therefore, I adopted at Stanford University the Cornell rule that no honorary degrees or degrees for studies carried on *in absentia* should be awarded. This regulation has saved us much pressure from various quarters. It seems to me to give the university a certain dignity as existing for purposes of instruction, not for conferring honors on outside persons.

ter and ability to read and write, — that is, the old traditional criteria for the study of law. Against this proposition I stoutly protested, urging that requirements be at least as high as those for admission to the freshman class. But my ideas failed of acceptance, and grammar school standards were adopted. After a few years, however, the original policy was discarded, entrance conditions being then raised to the high level obtaining at Harvard, and instruction entrusted to professional teachers in place of active practitioners in intermittent service. Nevertheless, it was a matter of years before the Cornell Law School recovered from its first handicap. This harked back to the days when — as was said — "one could walk from the street into the legal profession," or to quote another contemporary epigram, "it required the same preparation for the Bar as for the sawbuck." During that period, a young Indiana acquaintance of mine entered on the practice of law with no training beyond his experience in avoiding the payment of a note by pleading minority at the time he signed it.

Handicap of the Law School

CHAPTER FIVE

I

Choice of a calling

ENTERING Cornell, I had in mind one or the other of two alluring callings: I would be a botanist or a breeder of fine sheep. For I was fascinated by the classification and distribution of plants, and at the same time much interested in the little I knew of breeding and heredity, acquired partly from limited reading, partly from experience.

My early interest in sheep never died out, although my time came to be fully occupied with other matters. But, traveling through England, I have always been interested in the development of the different breeds through segregation and isolation, each county having even yet its special kind. In Australia, also, I have given some attention to the results of modern selective breeding, which provided New South Wales with the best merino or fine-wooled stock in the world.

Interest in Botany

In connection with my studies I had read of distinguished men who had made Botany their life work, and I had exchanged a few letters with Asa Gray of Harvard, the most eminent botanist in America. Yet such a career seemed almost unattainable to an impecunious boy with no visible prospect of extensive travel, which alone gives access to new floras. On the other hand, there were then no available means for intensive study of plant behavior, as our microscopes were inadequate, microtomes had not been invented, and plant physiology was in its infancy. Moreover, my own botanical

interests were primarily geographical and descriptive. I wished to know plants as plants, and in their relations to environment. And while, as time went on, I acquired more confidence in my own capacity, and came to feel that I wanted to be a teacher of science, I was by no means sure that my chosen field for research would continue to lie in Botany. My Commencement essay (printed in the Cornell *Era* as "The Colors of Vegetation") had little importance as an original contribution. My Master's thesis dealing with the Flora of Wyoming County contained considerable new matter of local value, though it was never published. Toward Geology and Ornithology I had meanwhile felt a growing attraction; but Vertebrate Zoölogy was to claim my final allegiance.

Professorship at Lombard

Upon graduation in 1872 I decided not to remain as instructor in Botany at $750 a year, accepting instead the $1300 professorship of Natural Science at Lombard University — now Lombard College — an institution under the direction of the Universalist Church, located at Galesburg, Illinois. The months of July and August I spent with Herbert Copeland at his father's home in Monroe, Wisconsin. Going West by way of the Great Lakes, I reached Chicago just after the great fire which left scarcely anything of that once enterprising frontier town. For the whole city had been made up of wooden structures, and the conflagration, starting in the overturn of a lantern by a reckless cow, obliterated everything from what is now the southern edge of the business district to Lincoln Park in the north.

While in Chicago I went out to see for the first

The unbroken prairie

time an unbroken prairie, and was filled with delight and enthusiasm over the variety and novelty of the plants which grew there. Once before, and only once, had I had a chance at a new flora; that was in 1871, at Niagara Falls, when I visited it with a number of other students. Around about were many plants which had come from farther west, their seeds having been brought down by the water.

In the autumn Copeland went as teacher of Natural Science to the Normal School at Whitewater, Wisconsin, while I proceeded to Galesburg. On the way, however, I attended at Dubuque the meeting of the American Association for the Advancement of Science. This society, holding its national sessions once (and sometimes twice) each year, has been an institution of great value in bringing the young workers in science into the company of its established leaders.

The A.A.A.S. at Dubuque

At Dubuque I first met a number of men of whom I had often heard but with whom I had not previously come into direct contact. Most prominent among them was Gray. Some one, I remember, looked out of the window and said: "There goes Asa Gray. If he should say that black was white, I should see it already turning whitish." Another leading figure was James Hall, state geologist of New York, who had been in our laboratory at Cornell and seen my modest work on the brachiopods of northern Brazil, so strangely like similar shells from the Helderberg rocks about Albany. Dr. J. P. Lesley, the geologist, was also conspicuous. His saying that "the college graduate may flourish his diploma, but the world cares little for that baby badge," has always lingered in my memory, as more

than one generation of my students can well attest. Still another, not less eminent, was Dr. Charles E. Bessey, botanist of the University of Nebraska, an original teacher and a helpful friend.

Guests of the state

The boundless hospitality of the people of Iowa I remember with much pleasure. Everywhere we were received without charge, and on Sunday a ticket was given each of us by the transportation companies to be filled out for any place in Iowa that might attract. I myself selected a trip by steamer down the Mississippi River to Burlington.

Since then I have attended several other meetings of the Association, one each at New Haven, Ottawa, Boston, and Minneapolis. With time, also, I saw myself changing from an eager young disciple to a place among the "old masters" whom the young fellows hope to meet, but who scarcely find time and strength to foregather each year.

Making of a Darwin

At the meeting in 1909 I was elected president of the Association for the following year, an honor never twice accorded to any one. My presidential address, delivered at Minneapolis in 1910, was entitled "The Making of a Darwin." Professor Henry Fairfield Osborn of Columbia had once asserted that no American university could produce "a Darwin"; I therefore set forth what seemed to me the essential elements in the making of a great naturalist and claimed that they were to be found as freely in America as anywhere in Europe. They were, first, the original human material; second, contact with nature; third, an inspiring teacher. As to the first, I argued that only life can yield the "stuff" from which great men are made — a matter of heredity, not of geographical location. Contact

with nature, the second essential, is possible everywhere, and much more so on this broad and unexhausted continent than in the fens of Cambridgeshire. As to the third, Darwin explains his own indebtedness: he "walked with Henslow," deriving from that vigorous and enthusiastic botanist the determination to make Natural History his life work. Plainly it was not Cambridge and Edinburgh which made him. Indeed, he bluntly affirms that in his scientific career he owed nothing to Cambridge beyond his association with Henslow, which was personal rather than official; and at Edinburgh he listened to lectures on geology "so incredibly dull" that he made up his mind never to attend any more or even read a book on the subject!

Need of "Darwin stuff"

I am sure that a Darwin could be produced in America just as readily as anywhere else. Once secure the fortunate combination of inherited germ plasm, the necessary "Darwin stuff," and the rest is easy, for America affords an exuberance of nature and always a choice number of Henslows as companions and interpreters.

In Galesburg

But to return to Galesburg, where, in the month of September, 1872, I arrived to begin my work. Then only twenty-one years old and without worldly experience, I was ignorant and more or less scornful of some of the social duties supposed to be incumbent on professors. But I worked very hard at Lombard, did some excellent teaching, and developed a certain degree of enthusiasm in the small body of students, of whom there were not over one hundred in the entire collegiate department, with only eight in the graduating class. A number of these young people,

however, had real ability — among them my sister, whom I had asked to join me for the year.

Range of Natural Science

Natural Science, I found, was an expansible subject. My "chair" demanded classes in Zoölogy, Botany, Geology, Mineralogy, Chemistry, Physics, Political Economy, Paley's "Evidences of Christianity," and, incidentally, German and Spanish! I also had charge of the weekly "literary exercises," consisting of orations and the reading of essays, — a dreary and perfunctory performance, — with a class in Sunday School for good measure. In off hours, also, I served as pitcher of the student ball team, taking part in regular contests with our neighbor, Knox College, another Galesburg institution — much better endowed and only a mile away.

In Chemistry and Physics I had almost no apparatus, and nothing that could be called a laboratory except as I created it — electrical instruments being the only articles of real value we possessed. For the rest, we studied Botany in the field, and the rich fossil deposits and geode beds along the banks of the Mississippi River I utilized to the utmost in Geology. Once when the board of trustees sent a committee to inspect the work of the faculty, they criticized my teaching solely on the ground that "I allowed the students to go into the cabinet to handle the apparatus and waste the chemicals." And one of their number felt a little hurt because I regarded with undisguised scorn his present of a "fossil ham" which was merely a water-worn boulder of unusual shape.

A "fossil ham"

On the whole, however, I valued the growing enthusiasm of my pupils more than I did the opinion of the board of trustees. One matter, nevertheless,

caused me a certain embarrassment. My predecessor, Dr. Livingston, a man of high character and a certain degree of executive ability but no scientific training, had been removed from the professorship of Natural Science at the age of sixty because he was thought inadequate for the labor of teaching. The presidency then becoming vacant, after considerable discussion on the part of the board he was made acting head for the time being. This left his relation to me rather delicate, and occasionally difficult. On one occasion, for instance, he criticized my account of the Glacial Period because I made it appear "as though ice had actually covered the land." His misinformation on these matters dated from the period in which glacial phenomena were attributed to icebergs and the wash of waves over submerged regions.

The Glacial Epoch

Leaving Lombard

At the end of the year the trustees, being short of money and none too appreciative, left me no acceptable alternative save to resign — which I did not unwillingly. They were, however, taken aback by the fact that nearly all the advanced students then expressed their intention of going to Cornell. Among those who actually did go were Edward Junius Edwards, entomologist, whom Mary afterward married, and Belle Sherman, who graduated at Cornell and remained in Ithaca for forty years as science teacher in the high school.

2

From Galesburg I went directly to the island of Penikese as one of those chosen by Professor Agassiz to constitute the first class in his proposed Summer

School of Science. During the previous winter he had cast about for some means of coming in contact with American teachers of Zoölogy, and so exerting an influence toward better methods; for in those days science teaching in the secondary schools, even in the colleges, was of a very inferior order, without laboratories and for the most part lacking contact with nature itself. The scheme he evolved was a pioneer movement in education. Up to that time, it will be remembered, nothing of the sort had anywhere existed. But he conceived the idea of meeting teachers at the seaside, away from all other influences, believing that he could thus make clear to us the necessity of going directly to nature, the fountain head — thus teaching us to recognize the truth as truth, to know that there are facts in the universe which, as Huxley says, are "fundamentally beyond denial, and to which the tradition of a thousand years is no more than the hearsay of yesterday."

The first summer school of science

The first plan, as suggested by Professor Nathaniel Southgate Shaler, Agassiz's Harvard colleague, was to call a group together for a "scientific camp meeting" on the island of Nantucket. Before a site was chosen, however, Mr. John Anderson, a wealthy tobacco merchant of New York City, offered the use of Penikese supplemented by an endowment of $50,000 in money for the permanent location of the school there; and Mr. C. W. Galloupe of Boston promised to lend his large yacht, the *Sprite*, for dredging purposes. Agassiz, I may add, seldom found difficulty in raising money, his personal enthusiasm being compelling. To this fact a member of the Massachusetts legislature once bore testimony:

"I don't know much about Agassiz's Museum, but I am not willing to stand by and see so brave a man struggle without aid."

Penikese

Penikese, a little forgotten speck on the ocean, about eighteen miles from New Bedford, is the outermost and least of the Elizabeth Islands, which lie to the south of Buzzards Bay, off the heel of Cape Cod. It comprises some sixty acres of very rocky ground, being indeed only a huge pile of stones with intervals of soil. For the whole cluster was once a great terminal moraine of rocks and clay brought down from the mainland and dropped into the ocean by some ancient glacier, after which the mass was broken by the wash into eight little islands separated by tide channels:

> Naushon, Nonamesset, Uncatena, and Wepecket,
> Nashawena, Pesquinese, Cuttyhunk, and Penikese.

The last of these consists of two hills joined together by a narrow isthmus with a little harbor of anchorage; in June, 1873, it bore a farmhouse, a flagstaff, a barn, a willow tree by a spring, and a flock of sheep. And there was founded "the Anderson School of Natural History," for which two new buildings, a laboratory and a dormitory, were duly provided.

Choice of students

From the many hundred applicants Agassiz had chosen fifty teachers, students, and naturalists of various grades and from all parts of the country — thirty-five men and fifteen women. The practical recognition of coeducation thus involved was criticized by a number of his friends brought up in the monastic schools of New England; but the results justified the innovation. His thought was that those fifty teachers, women as well as men, should

be trained in right methods, and so carry back into their own schools sound ideas on the teaching of science. Moreover, each institution reached would become in time a center of help to others.

First sight of Agassiz

None of us will ever forget his first sight of Agassiz as we arrived on a little steamer from New Bedford in the early morning, and he met us at the landing, his face beaming with pleasure. For this experiment might prove to be his crowning work as a teacher. His tall, robust figure, his broad shoulders bending a little under the weight of years, his large, round face lit up by kindly, dark-brown eyes, his cheery smile, the enthusiastic tones of his voice, his rolling gait — all these entered into our abiding impression of the great naturalist.

The dormitory not being yet finished, the whole group was first assigned to temporary quarters in the laboratory, across the middle of which a partition of robes and blankets had been thrown to separate the sexes. Agassiz then set every one to work without delay, saying that we should examine the rocks round about and be ready to tell him what we had seen. Thereupon two of us, Dr. W. O. Crosby (of the Institute of Technology) and myself, were suddenly beset with questions, for we alone knew something of Mineralogy. "Is this hornblende?" "Is this epidote?" "How do you tell them apart?" "How do you know granite from gneiss, feldspar from quartz?" But when Agassiz himself tested us, he neither asked nor answered questions of this kind; and as for names, it slowly dawned on all that a name was of little consequence until backed by real knowledge.

Ideas, not names

The lecture room

The old barn had been hastily converted into dining hall and lecture room by turning out the sheep, making over the horse stalls into a kitchen, and putting in a new floor, though doors and walls were left unchanged and the swallows' nests remained under the eaves. In the middle of the big room stood three long tables; at the head of one sat Agassiz, always with a blackboard at his right, for he seldom spoke without a piece of chalk in hand, and frequently gave an entertaining lecture at table, often about some fish or other creature the remains of which lay on our plates. From one of these talks I made my first acquaintance with the bones of the Scup.

Mrs. Agassiz, whose genial personality did much to bind the company together, was present at every lecture, notebook in hand. Among the teachers were Dr. Burt G. Wilder, one of my former Cornell professors, Edward S. Morse, Alpheus S. Packard, Alfred Mayer, Frederick W. Putnam — all young men of growing fame; Arnold Guyot, also, and Count Louis de Pourtalès, early associates and lifelong friends of Agassiz.

Agassiz's purpose

Our second day upon the island was memorable above all others for the striking incident recorded by Whittier in "The Prayer of Agassiz." Breakfast over, Agassiz arose and spoke, as only he could speak, of his purpose in calling us together. The swallows flew in and out of the building in the soft June air. Some of them grazed his shoulder as he dwelt with intense earnestness on the needs of the people for truer education — needs that could be met by the training and consecration of devoted teachers. This was to him no ordinary school, he said, still less a

LOUIS AGASSIZ, ABOUT 1857

mere summer's outing, but a missionary work of the highest importance.

The thoughts of God

A deep religious feeling permeated his whole discourse, for in each natural object he saw "a thought of God" which the student may search out and think over again. But no reporter took down his words, and no one could call back the charm of his manner or the impressiveness of his zeal. At the end he said, — with a somewhat foreign phrasing, — "I would not have any one to pray for me now": adding, when he realized our failure to grasp his meaning, that each would frame his own prayer in silence.

Even the careless heart was moved,
And the doubting gave assent
With a gesture reverent
To the Master well beloved.

As thin mists are glorified
By the light they cannot hide,
All who gazed upon him saw,
Through its veil of tender awe,

How his face was still uplit
By the old sweet look of it,
Hopeful, trustful, full of cheer
And the love that casts out fear.

"Giving Agassiz a lesson"

Nevertheless, there were among us some young fellows from Harvard and Amherst who failed to appreciate the significance of Agassiz's high purpose, and promptly determined to show their disapproval of coeducation by "giving the Professor a lesson!" Accordingly, after a night or two, they threw over into the women's quarters a huge doll baby fashioned from a pillow and blanket. This produced some

commotion, and in the morning Agassiz was distinctly stern. At breakfast he rose and said that six young men (whose names he gave) would leave by the steamer at ten o'clock. Various appeals were now made: "the women didn't mind it" — "it was only a student prank and had no significance." But he remained firm. We were there for serious purpose, he said; it was not the place or time for "pranks."

First dredging trip

The third day I was one of those chosen for the first dredging trip, on which we secured many creatures from sea bottom, quite new to us. At the same time we learned something of the discomfort possible in an unballasted schooner anchored to a dredge in the open ocean; but with longer experience I managed to master the situation. Among interesting later trips on the *Sprite*, we visited the island of No Man's Land, far out at sea and inhabited by a few fishermen whose outlook was wholly different from ours.

3

Agassiz the optimist

So the summer went on through a succession of joyous mornings, beautiful days, and calm nights, with the Master always present, always ready to help and encourage, and the contagious enthusiasm which surrounded him like an atmosphere never lacking. A born optimist, his strength lay largely in a realization of the value of the present moment. He was a living illustration of Thoreau's aphorism that "there is no hope for you unless the bit of sod under your feet is the sweetest in this world — in any world."

Of all his varied lectures the most instructive were those on glaciers. Here he spoke as an expert, and every rock around was witness to his words. Equally delightful, however, were the reminiscences of his early life and of his fellow workers in science, Schimper and Braun in Munich, Valenciennes and the rest in Paris, and the three he acknowledged as masters — Cuvier, Humboldt, and Döllinger. "I lived at Munich for three years under Dr. Döllinger's roof," he said, "and my scientific training goes back to him, and to him alone."

Not a Darwinian

To the Darwinian theory as it looked to him he was most earnestly opposed. Essentially an idealist, he regarded all his own investigations not as studies of animals and plants as such, but as glimpses into the divine plans of which their structures are the expression. "That earthly form is the cover of the spirit was to him a truth at once fundamental and self-evident." To his mind, also, divine ideas were especially embodied in animal life, the species being the "thought unit." The marvel of structural affinity — unity of plan — in creatures of widely diverse habits and outward appearance he took to be simply a result of the association of ideas in the divine mind. To Darwin, on the other hand, those relations illustrated the tie of a common heredity acting under diverse conditions of environment.

Yet Agassiz had no sympathy with the prejudices exploited by weak and foolish men in opposition to Darwin's views. He believed in the absolute freedom of science, and that no authority whatever can answer beforehand the questions we endeavor to solve — an attitude strikingly evidenced by the fact that every one especially trained by him after-

ward joined the ranks of the evolutionists. For he taught us to think for ourselves, not merely to follow him. Thus, though I accepted his philosophy regarding the origin and permanence of species when I began serious studies in Zoölogy, as my work went on their impermanence impressed me more and more strongly. Gradually I found it impossible to believe that the different kinds of animals and plants had been separately created in their present forms. Nevertheless, while I paid tribute to Darwin's marvelous insight, I was finally converted to the theory of divergence through Natural Selection and other factors not by his arguments, but rather by the special facts unrolling themselves before my own eyes, the rational meaning of which he had plainly indicated. I sometimes said that I went over to the evolutionists with the grace of a cat the boy "leads" by its tail across the carpet!

My acceptance of Darwinism

All of Agassiz's students passed through a similar experience, and most of them came to recognize that in the production of every species at least four elements were involved — these being the resident or internal factors of heredity and variation, and the external or environmental ones of selection and segregation.

In the original Penikese group, the man who most interested me was William Keith Brooks, then occupying a precarious professorship in a little college at Niagara Falls. Very wise and self-contained, he was especially sparing of words and keen in all his conclusions. Later, as professor in Johns Hopkins University, he came to be the most distinguished American biologist of his time, a true

"Sage in Science," as I termed him in a review of one of his books. Once I called at his office and found him tracing the anatomy of a worm. "Hello, Jordan," he said cordially, and then returned to his drawing as coolly as though we had last met within half an hour instead of years before. That was his way. Yet, notwithstanding his reticence, he was really a good friend, a very interesting lecturer, and a most successful teacher.

Future leaders in science

Charles O. Whitman was older than most of the rest at Penikese. There his main interest was Ornithology, of which he seemed to have an extensive knowledge. Afterward he rose to the front in General Biology, becoming professor of Zoölogy in the University of Chicago. The latter part of his life he devoted to the breeding of birds, with a view to defining more explicitly lines of heredity, determination of sex, and the meaning of "unit characters." Another delightful member of the group was Dr. Frank H. Snow, then professor of Zoölogy at the University of Kansas, afterward head of the same institution. Snow was an excellent naturalist, simple, hearty, and jocund, much beloved by his students, and (even when chancellor) by his associates. Charles Sedgwick Minot, bent on perfecting himself through training in Germany, was the youngest and one of the ablest of us all. As professor of Physiology at Harvard he came to stand unquestionably in the front rank of American men of science. I remember a keen saying of his, "The difference between a scientific physician and a practical one is that more of the scientific patients get well and more of the others die." Walter Faxon of Harvard, an assiduous student of crabs and

lobsters, J. W. Fewkes, ethnologist, and W. O. Crosby, mineralogist, were also students of promise.

Samuel Garman, assistant in the Museum of Comparative Zoölogy and general helper to Agassiz, was a conspicuous figure, being then a breezy young fellow with wide sombrero and flowing red necktie, who had recently returned from an expedition to the Upper Missouri, where he was associated with Marsh and Cope. He became a leading authority on sharks and remained for more than fifty years in the Museum, settling down there into a quiet and gray old age.

Successful teachers

All the persons mentioned above were hoping to become leaders in science. Others were equally ambitious to be useful as teachers. Among the latter, Lydia W. Shattuck, professor of Botany at Mount Holyoke, was a great favorite, as was also her assistant, Susan Bowen, who in 1875 became my wife. Other successful teachers were Susan Hallowell, first professor of Biology at Wellesley College, Austin C. Apgar, bird enthusiast at the Trenton Normal School, J. G. Scott of the Westfield Normal, Franklin W. Hooper, afterward director of the Brooklyn Art Institute, H. H. Straight of the Oswego Normal, Mary Beaman of Binghamton, now Mrs. Joralemon, and Zella Reid, now Mrs. Cronyn, a pupil of Horace Mann at Antioch College, Yellow Springs, Ohio. Years afterward (for old times' sake, I suppose) Mrs. Cronyn sent her two sons from Massachusetts to study under me at Stanford University.

Agassiz was destined not to meet with us a second time, for he died in December, 1873. In the

ords of Colonel Theodore Lyman, one of his earliest and ablest students, they *Death of Agassiz*

> . . buried him from the chapel that stands among the ollege elms. The students laid a wreath of laurel on his bier, nd their manly voices sang a requiem. For he had been a udent all his life long, and when he died he was younger an any of them.

His headstone at Mount Auburn is a boulder rought from the glacier of the Lauter Aar, on which, hen professor at Neufchâtel, he had built a rude ut in order to study the movement of ice. In that ny "Hôtel des Neufchâtelois," famed among ge-logists, he once told me, he "slept on the ice for x weeks and had ever since suffered from rheuma-sm in the right shoulder."

The following summer we gathered again at enikese under the general direction of Alexander gassiz and Wilder. Eager new faces now appeared, mong them my Cornell intimates, Copeland and udley, Cornelia M. Clapp, for many years a rofessor at Mount Holyoke, my sister Mary, and elen Bingham (sister of Mrs. Copeland), who had cceeded me at Lombard. Wise teachers were resent as before, the work was stimulating — but a nse of loss was felt above everything else. One *Memorial service* vening, therefore, we met in the lecture hall, and ch spoke as best he could of the absent Master. he words which longest remained with us were ose of Samuel Garman:

> He was the best friend that ever student had.

On the walls we put several mottoes taken from gassiz's talks to us:

STUDY NATURE, NOT BOOKS

BE NOT AFRAID TO SAY, "I DO NOT KNOW"

STRIVE TO INTERPRET WHAT REALLY EXISTS

A LABORATORY IS A SANCTUARY WHICH NOTHING PROFANE SHOULD ENTER

These striking phrases, written on cloth, were left for fifteen years in the empty building, whence they were then carried by my student Eigenmann (of whom more later) to the Marine Station at Woods Hole, in some degree the natural successor of Penikese.

Anderson School closed

With the end of the second summer — that of 1874 — the Anderson School closed forever. There was nothing to do except pay the debts and shut the doors. Agassiz being gone, even the small sum necessary to carry on the work could nowhere be obtained. In the eyes of the business man for whom it was named, the venture was a failure. For nearly twenty years, therefore, the buildings stood just as we left them, in the charge of Captain Flanders, who was drowned in a storm in the winter of 1891. A year or two later they were struck by lightning and burned to the ground, leaving the island once more to the old farmhouse, the barn, the willow by the spring, and a flock of sheep.

But while Penikese is deserted,[1] the impulse which came from Agassiz's work there still lives, and is deeply felt in every field of American science. For with all due appreciation of the rich streams

[1] This word I retain advisedly, even though the state of Massachusetts for a time made the island a refuge for lepers.

Influence of Penikese

vhich in later years have flowed from many quarters, it is still true that the school with most extended influence on scientific teaching in America was held n an old barn on a little offshore island. It lasted nly a few months, and it had virtually but one eacher. When he died, it vanished!

4

Algæ and fishes

At Penikese I devoted myself chiefly to the study f Algæ, making in all a large collection of seaweeds. his interest led Agassiz to appoint me instructor n marine botany for the second summer. Toward ne end of the first session, however, he asked me o undertake a study of the fishes of the region, nd I was accordingly put in charge of the schooner *Tina Aiken*, Captain Flanders. Every morning arly we started out to see the raising of the pound ets (stationary traps for fishes) at Mememsha ight on Marthas Vineyard, near the gaudily olored orange and white promontory of Gay Head. Iere I made my first acquaintance with fishes of ne sea, which were brought up in bewildering variety. t then became my duty to select those which I nought would be useful in the Museum of Comarative Zoölogy, and to study the habits of the ifferent kinds. Meanwhile I prepared and soon fter published (1874) "A Key to the Marine Algæ f the Atlantic Coast from Newfoundland to Florida," cluding a list of all the known species; like most apers of that type, it was useful mainly to the uthor, and as a point of departure for future study. ut my removal to the Middle West checked for ne time being any further work along that line, and

I never again returned to it. Having sold all my seaweed books to a second-hand dealer, I found to my pleasure in 1892 that Dudley had bought them and brought them with him to Stanford University.

A call to Wisconsin

At the end of the first summer I went over to Cambridge, where Agassiz had promised me an appointment as curator of fossil vertebrates in the Museum, a position which had recently become vacant. Meanwhile he received a letter from Dr. Russell Z. Mason of Appleton, Wisconsin, asking him to send one of his students as principal of the Appleton Collegiate Institute, a preparatory school developed on the theories of Pestalozzi and Froebel, in which science teaching was to be made a specialty. From Agassiz's answer nominating me for the position I was allowed to copy a few sentences which, after all these intervening years, I may be pardoned for printing:

> The highest recommendation I can give Mr. Jordan is that he is qualified for a curatorship in the Museum of Comparative Zoölogy. I know no other young man of whom I can say that.

This statement was sufficient, and I at once set forth for Appleton to undertake my new duties.

Students at Appleton

I do not think that my management of the Institute was of a high order, for I was then only twenty-two years old and lacked adequate executive experience. But my teaching was excellent, and I have never known a more enthusiastic body of young people. One of the boys, Charles Leslie McKay, who followed me to Indiana, developed real scientific ability, being afterward sent by Professor Baird o

the Smithsonian Institution to Alaska to make collections in Natural History and Ethnology, and to study the Aleuts. From headquarters at Nushagak on Bristol Bay, he sent back valuable material, including a new species of Snow Bunting. One stormy night, however, he started to cross the turbulent Nushagak River in a skin *bidarka*, and was never seen again. In his death, science suffered a distinct loss.

A new friend

In Appleton I soon met an unusual woman whose friendship in that year of my apprenticeship formed later, in California, a curious link with the most vital part of my career as a teacher. This was Mary Frazer Macdonald from Inverness, Scotland, a slender, energetic, fiery little Highlander, a devoted feminist and suffragist, with, moreover, a wide knowledge of literature. Elaborately educated in Germany as a kindergarten teacher, she had been called directly to Appleton at the opening of the Collegiate Institute. Arriving there, she learned with dismay that her salary of $1000 (which looked large when expanded into German marks) was less than that paid to the principal then in charge, a man distinctly her inferior. Because of this discrimination, which she thought unfair, she resigned at the end of the first year, remaining, however, in town for a few more months, during which period she became much interested in my scientific work and occasionally dropped into my classes.

Turning to fishes

About Appleton, algæ were few and insignificant, and I had no microscope adequate for their study, while fishes were abundant and varied in Fox River and the neighboring lakes of Winnebago and Buttes des Morts. With Miss Macdonald's assistance I

dissected all the available fish forms and made anatomical drawings of them. During the winter she secured a position as teacher in a San Francisco kindergarten founded by Mrs. Sarah B. Cooper — a prominent local figure in the social and educational circles of that period — and later endowed by Mrs. Leland Stanford. There it happened that one day Miss Macdonald related to her young charges "The Story of a Stone," which she heard me give in Appleton before my class in Geology. On that occasion Charles McKay had brought in and questioned me about a bit of *Favosites*, a fossil Silurian coral having almost exactly the appearance of honeycomb, which he had picked up in glacial drift. With this as a text, I set forth the growth of the coral, covering at the same time in simple language the geological history of Wisconsin from the Silurian down. I may here add that afterward, under the title already mentioned, my little story appeared in *St. Nicholas*, from which it was widely copied in both America and England. It was the first in date of all the "nature stories" for children, of which so many have been written in recent years by naturalists — and others.

"Story of a Stone"

The sequel

Among Miss Macdonald's pupils was young Leland Stanford Junior, who took sufficient interest in *Favosites* to repeat its history at home. The matter made a strong impression on his father as an illustration of how science can be effectively taught to children. Many years afterward, when I was president of Stanford University founded in memory of the little lad who had liked "The Story of a Stone," the "Governor," as he was still affectionately called, spoke to me of the incident. We were

then both surprised and pleased — I to learn that even indirectly the boy's life had touched mine, he to know that the story was of my making. I also recall with pleasure the admiration, almost veneration, of both Mr. and Mrs. Stanford for the educational ideals and personality of Agassiz, who was once their guest in San Francisco. As a matter of fact, when the large Zoölogy Building (now Jordan Hall) was erected, a marble statue of Agassiz of heroic size was one of the two placed over the portal, the other being that of his patron and associate, Humboldt.

Agassiz honored at Stanford

But to return for a moment to Miss Macdonald, or rather to Mrs. David McRoberts, for such she became a year or two after her arrival in San Francisco, where her husband, a Scot, was for a time on the staff of the *Call*. Shortly after their marriage, however, Mr. McRoberts was appointed reporter for the House of Commons, and they settled down in Chelsea. After some years they returned for a time to San Francisco, Mrs. McRoberts taking a leading part in the local suffrage campaign. Later still they went to the mining district of North Australia in search of a fortune, and from there, about 1900, McRoberts wrote me of the sudden death of his brilliant wife.

With the end of my one year at Appleton the Collegiate Institute ceased to exist, although founded but three years before by Mr. Anson Ballard, an enthusiast in education, who at his death endowed it with considerable real estate. The financial panic of that period, however, punctured land booms, and the property proved quite unsalable.

In June, 1874, therefore, the trustees perforce (though reluctantly) closed the school, paid off all the teachers, and turned the building over to the neighboring Lawrence University, an institution under the control of the Methodist Episcopal Church. This necessity was a matter of real regret to Mrs. Ballard and her daughter Leda, — now Mrs. Clark, — as well as to others who had faith in advanced theories of education.

The last day, after the closing exercises, we all went together in a great four-horse coach on a picnic to Lake Winnebago. Having planned to take the evening train to Chicago, I was obliged to leave before the rest. The students then suddenly decided to give me a farewell greeting at the station of Menasha, five or six miles away. They started off joyously, but coming to Fox River between Neenah and Menasha, they were held up and forced to pay a fine of five dollars for fast driving over a bridge.

Appleton revisited

Forty-two years later I revisited Appleton. Of the six girls who had been members of the graduating class, one — Annie, the gifted daughter of Dr. Mason — had passed away, one had removed to Oregon, and four (including Mrs. Clark) were still living in town, happily married and apparently prosperous. The afternoon before my lecture they gave me a charming tea and reception in memory of old times.

5

Of the summer months of 1874 passed by me at Penikese I need not again speak. At their close, however, I took advantage of another opportunity to extend my scientific acquaintance and experience.

DAVID STARR JORDAN, 1874

Woods Hole and Noank

The year before, Baird had provisionally established a research station at Woods Hole on the southern angle of Cape Cod. The location proved to be an excellent one, much superior to Penikese as a collecting ground, because of a variety of conditions favorable to animal life — shallow water, deep water, and brackish estuaries being accessible. Its nearness to Boston is also a desirable factor, as seclusion, which was a great advantage for Agassiz's purposes, necessarily handicaps a research station. Thus admirably situated, the Woods Hole Laboratory has since developed into one of the two best-known and best-equipped marine laboratories in the world, the other being Anton Dohrn's establishment at Naples.

But during the summer of 1874, before making a final decision as to site, Baird tried out Noank, Connecticut, to which port he transferred his little dredging steamer, the *Blue Light*, and a few volunteer assistants. The work at Penikese being over, I went on to Noank for a short stay. Baird himself was absent, but several of his associates were hard at work. There I met for the first time George Brown Goode, professor in Wesleyan University and a volunteer field assistant to Baird on the newly established United States Fish Commission. A man of my own age (born in New Albany, Indiana, in 1851), of medium height, rather slender figure, scholarly appearance, and artistic temperament, he had a winning manner enlivened by great, but never uncritical, enthusiasm. Throughout his subsequent career as assistant secretary of the Smithsonian Institution, Fish Commissioner, and organizer of the National Museum, our relations remained inti-

George Brown Goode

mate, bound as we were by ties of friendship and common scientific pursuits; and I was personally under large obligations to him.

Goode the naturalist

Although one of the chief builders of the science of Oceanic Ichthyology, Goode was equally interested in the history of Zoölogy. He also delighted in setting things in order; the striking characteristic of his scientific papers was scholarly accuracy and good taste. Among American naturalists he was perhaps the most methodical and conscientious, and, in his way, the most artistic. He never did anything carelessly, never engaged in any controversy, yet no one was more ready to acknowledge an error or showed greater willingness to recognize the good work of others. The most extended of my own monographs, "The Fishes of North and Middle America," [1] would never have been written except for his repeated insistence and generous encouragement.[2]

He early became Baird's closest associate, and the period embraced by the '70's, '80's, and '90's, in the course of which the influence of those two men made itself generally felt in Washington, was in a real sense the golden age of American governmental science. And his death in 1896 virtually resulted from overwork, mostly in connection with the

[1] See Chapter XXI, page 524.

[2] In 1879 Goode did me the honor of giving the name *Jordanella* to a genus of handsome, chubby little killifish of the Florida rivers, now valued for aquarium purposes. Such courtesies serve to recall to students the names of their predecessors.

In this regard, I have been honored beyond my deserts. *Jordania* is a rare, handsome, and primitive sculpin of Puget Sound; *Jordanicus*, a pearl fish of the South Seas, living in the body cavity of a sea cucumber; *Jordanidia*, a predatory mackerel of the Black Current of Japan; *Davidia*, a filefish of Brazil.

organization of the National Museum as a means of popular education as well as of scientific research.

Goode the man

No unkind word was ever said of Goode either in life or after death. In 1897, at the request of the Smithsonian authorities, I prepared a brief sketch of his work, quoting the following from our mutual colleague, Gill, of whom more hereafter:

> His disposition was a bright and sunny one, and he ingratiated himself in the affections of his friends in a marked degree. He had a hearty way of meeting intimates, and a caressing cast of the arm over the shoulder of such a one often followed sympathetic intercourse. But in spite of his gentleness, firmness and vigor became manifest where occasion called for them.

Goode's most important scientific treatise, "Oceanic Ichthyology," in part the work of Dr. Tarleton H. Bean, his associate (who, by the way, was at Noank), appeared shortly before his death.

Verrill and Hyatt

At Noank — or near by, at Yale — I also met Addison E. Verrill, another distinguished student of Agassiz, with whom I had frequent relations in later years. There, too, I found my old Cornell friend, Rathbun, then a volunteer assistant on the Fish Commission, of which in time he became the guiding spirit; and Alpheus Hyatt, one of Agassiz's best students, busily engaged in the study of sponges, a fact which recalls a bit of pleasantry at his expense. A young woman visitor being about to marry, somebody read one evening a poem of congratulation purporting to be by Professor Hyatt. In this, as a climax, he was quoted as saying:

> Now thirteen of my best sponges
> Will I give her as a dower!

Mystic River

Leaving Noank after dark to take the train at Old Mystic, the next station, five miles to the east, I had to walk the track and cross a bridge over the broad and shallow estuary of the Mystic River. This stream runs through a marshy woodland frequented by sad and insistent night herons. Nothing particular happened, and I reached my destination in safety; but the weird dusk of unseen water in an unknown but not uninhabited wood rises before my eye whenever I meet the word "mystic."

CHAPTER SIX

I

From Penikese I went to the Museum of Comparative Zoölogy, wishing to take up the study of fossil osteology in connection with the promised curatorship of the year before. But I felt almost certain that the museum would be unable to maintain even its actual staff, now that Agassiz was gone, its income being only about $10,000 and its accumulated debt amounting to upward of $40,000, a sum ultimately paid off by Agassiz's noted son, Alexander, whose skillful administration of the Calumet and Hecla mines made him later a multimillionaire. My own resources were meanwhile running low. Consequently, when shortly afterward I received a telegram from Superintendent George P. Brown of Indianapolis, asking me to take up the science work in the High School there, I gladly accepted the position.

Indianapolis

The capital of Indiana at first sight seemed singularly monotonous, being perfectly level and laid out in regular squares around a central circle. The streets, moreover, were lined with the Silver Maple, a second-rate shade tree which did not appeal to me. But the people said I would learn to love the town. As a matter of fact, I did — among other reasons because it contained an unusual number of clear-headed and broad-minded citizens, to some of whom I shall presently revert. When I reached Indianapolis, I did not know a single person in the state; at the end of seventeen years, when I left

for California, I had made acquaintances in every one of the ninety-two counties.

Indianapolis High School

My first (and only) year as a high school teacher proved a pleasant one. The institution started out that fall with a new principal and a fresh body of young teachers. Among these was William W. Parsons, afterward for more than forty years president of the Indiana State Normal School at Terre Haute. Another was Lewis H. Jones, long at the head of the Michigan State Normal at Ypsilanti. A favorite with all was Will Thompson, who came bringing his bride, May Wright, a woman of remarkable keenness of mind, a graduate of the University of Michigan. After her husband's death Mrs. Thompson left the High School (where she had been teacher of German) to organize in the city a classical school for girls. Later she married another of my good friends, Theodore L. Sewall, a Harvard man, and at that time master of the local classical school for boys. In the early '90's Mr. Sewall also died. His wife had meanwhile become a leader in movements for equal suffrage and international peace, acquiring in time a wide reputation both in America and in Europe.

Of the teachers whom we found already in the institution the most beloved was Mary E. Nicholson, a capable and scholarly woman, a member of the Society of Friends, who devoted her whole active life to the service of the youth of her city.

Enter Gilbert

In the High School I had a fine body of pupils. One of them, intimately associated with me in after years, was Charles H. Gilbert, now the well-known zoölogist. Another was Charles C. Nutting, for thirty years or more professor of Zoölogy at the

University of Iowa. Still another was Nellie Van de Grift — later Mrs. Sanchez — sister of Mrs. Robert Louis Stevenson, who as Fannie Van de Grift spent her youth in Indianapolis.

Maywood warblers

In connection with my work I interested several of my students in the field study of birds. The tall trees of Maywood down the White River were the favorite resort of the migrating warblers, and nearly all the species which cross Indiana could be found there. I know of no finer out-of-door study than Ornithology. It has, however, the almost fatal drawback that to secure any degree of thoroughness, one must kill. Dealing with such highly developed organisms is and ought to be painful. Somebody has said that in shooting a wood thrush one feels he has destroyed a "superior being."

The Manual of Vertebrates

I never killed anything for the pleasure of it, and since 1880 I have not even owned a gun, nor fired a shot at any living creature; my last attempt was directed at a California burrowing owl, which got away with its life. But from 1874 to 1876, in Wisconsin and Indiana, I made large collections of birds, and prepared a series of descriptions for my first real contribution to science — "A Manual of Vertebrates of the Eastern United States," published in 1876. This has gone through ten editions and is still considerably used in schools of the region it covers. It had been preceded, however, by a booklet printed at Appleton, the joint work of Balfour Van Vleck (an enthusiastic young naturalist in Lawrence University) and myself — an effort of which (as Dr. Coues once observed) "the less said the better, except that it paved the way to the excellent Manual of Vertebrates."

Marriage to Susan Bowen

On March 10, 1875, I was married at Peru, Berkshire County, Massachusetts, to Susan Bowen, daughter of Sylvester S. Bowen of that town. Miss Bowen had been at Penikese both the first and second summers. A favorite pupil of Miss Shattuck, she then held the position of associate in Botany at Mount Holyoke Seminary, of which she was a graduate. She was a woman at once gentle and enthusiastic, always hopeful, and of the type for which the word "beloved" is naturally employed. After ten years of married life she died at Bloomington, Indiana, November 15, 1885, leaving three children — Edith Monica, born in 1877; Harold Bowen, born in 1882; and Thora, born in 1884, who survived her mother less than two years.

2

McCulloch

Among my new friends in Indianapolis was Dr. Oscar Carlton McCulloch, pastor of Plymouth Church and a most humanly genial and broad-minded man. Appreciating his fine work, religious, social, political, and charitable, I became a member of the Plymouth Congregation, — the only religious organization I ever formally joined, — and in after years I used occasionally to speak from that pulpit. My homily on "The Disappearance of Great Men from Public Life"[1] was first given there, as was also my account of the Oberammergau Passion Play.

McCulloch was making a special study of the problems of hereditary poverty, and conducted a

[1] See Chapter XIII, page 313.

SUSAN BOWEN JORDAN, 1879

DAVID STARR JORDAN, 1880

detailed investigation of the "Tribe of Ishmael," a local group of "poor whites" mostly bearing Ishmael as a surname. A large majority of them were descendants of prisoners for debt sent over from England to Jamestown, Virginia, to become ancestors of a forlorn group of ne'er-do-wells scattered through the Middle West. With the assistance of the Associated Charities of Indianapolis, which he himself organized, McCulloch gathered the records of some five thousand of those benighted people about whose doors clustered most of the petty crimes and nearly all of the poverty of the town.

Pauperism

This piece of research was one of the first and most illuminating of the many studies of inherited incapacity. Its general conclusion I may sum up briefly. Among the poor there are three kinds — the Lord's poor, the Devil's poor, and paupers; that is, those that have fallen into poverty through misfortune, those that have earned and deserved it through vice, and those that have inherited feeble minds and feeble wills so that in an open competitive world they of necessity fall to the bottom, being destitute of initiative and self-respect.

Reed

Closely associated with McCulloch was Myron W. Reed, pastor of the First Presbyterian Church, a commanding figure in the pulpit but unconventional on week days, when he sometimes walked down town in carpet slippers. Reed was a man of charming personality, tall and handsome, with a fine voice and a striking use of epigram. A noted angler, he made frequent fishing trips to the region about Lake Superior. One phase of his attitude

toward life is well expressed in a saying of his, "The man who has a sore heel on a tramp always remembers it with a grin." Removing to Denver, he there became prominent as a labor advocate.

McCulloch and Reed were warm friends. At the former's funeral, Reed paid him a noble tribute:

> In whatever part of God's universe he may find himself, he will be a hopeful man, looking forward and not backward, looking upward and not downward, always ready to lend a helping hand and not afraid to die.

The presence of these two, as well as of others with whom I was less intimate, gave zest to the Indianapolis Men's Club and to all meetings of bright minds in the city. There is, moreover, a peculiar flavor to the native wit of Indiana not exactly found in any of the other states, and it used to be freely displayed in our varied gatherings.

Harrison

Another man of prominence, of a very different type, was Benjamin Harrison, an excellent lawyer, quiet, undemonstrative, conscientious, cold in manner and lacking the ordinary elements of popularity, but making himself a power in the state through his persistent choice of men of character as his political lieutenants. As President of the United States he was remarkable for the conscientious care he took in regard to government appointments, especially those of judges and attorneys. Good men in power, he insisted, made the party strong, while officials whom the people did not trust were always an element of weakness. No other President, in recent years at least, has been equally careful. In

this matter the subsequent administration of McKinley stood in marked contrast to that of Harrison.

The McKinley tariff

I happened to be in the latter's office in the White House when McKinley entered from the House of Representatives with the text of his famous tariff bill. To Elijah W. Halford, a well-known member of the Indianapolis group, then the President's secretary, I said that McKinley would live to regret that bill. But I was mistaken; it was Harrison himself who had to bear the burden, being defeated for reëlection by Cleveland, after which a rebound — largely the result of the panic during the latter's administration — made McKinley the next President. Moreover, the "free silver" issue, Bryan's whole platform in two campaigns, had further alarmed financiers, and thus played directly into the hands of McKinley's backers. Indeed, on this issue most of the "Mugwumps" (to which group I belonged) voted also for McKinley in 1896, fearing that the financial disorders which must follow the shifting of monetary standards would outweigh the evils of high tariff and of the spoils system in politics. And in spite of those factors to which we were continuously opposed, four years later most of us again supported McKinley against Bryan. As William P. Fishback, an able Indianapolis lawyer, one of my good friends, remarked, "We were rowing one way and looking the other." Some have repented their choice in that dilemma; some have not. It is, indeed, not impossible that Bryan would have been the safer, as the rise of senatorial domination was more of a menace than any financial heresy originating with the people.

Dr. Fletcher

Prominent among Indianapolis physicians was the brilliant and original Dr. William B. Fletcher, an expert in mental disorders. Long at the head of the State Hospital for the Insane, located near the city, he there early abolished medieval methods of violent restraint, being thus one of the pioneers in the modern humane treatment of the mentally disordered. In the early summer of 1891, Dr. Fletcher's excellent daughter Lucy, with her capable friend, Eleanor B. Pearson, both from the Harvard Annex, established the first preparatory school for girls [1] in the neighborhood of Stanford University. Both these young women afterward married professors in the institution.

Riley

Among all my Indianapolis friends, none had greater personal charm than James Whitcomb Riley, the poet whose name has since become a household word. Riley was a gentle, lovable man, with a fine sense of humor and a warm heart which for a time threatened to be his undoing. When his gracious and homely poems brought him into general public notice, they opened the door to a profitable career as a reader, for he rendered his own verse in delightful fashion. Nothing apparently could ruffle the sweetness of his temper. In 1892 he gave a reading at Stanford University, after which he was fiercely assailed by Ambrose Bierce for "corrupting" the English language by writing in the "Hoosier dialect." Some one asked Riley why he did not strike back. "I did," said Riley; "I hit him with a great chunk of silence."

During his brief stay at Stanford he was my guest, and at my request wrote in our visitors' book his

[1] Called Castilleja Hall upon completion of its original building at Palo Alto.

poem "Bereaved,"[1] with the remark that he thought it "perhaps the best of his brood." In 1915 I visited him "in Lockerbie Street," already the Mecca of Indiana poets. He was then about sixty-two years old, unable to rise from bed and near his end; but his friendly personal interest and kindly relation to the world he was leaving had in no degree abated.

Another Indiana poet, not of Indianapolis, however, was Maurice Thompson, a man of force and scholarship but less personal charm than the inimitable Riley. Once at my request he also wrote out for us two stanzas from the best of *his* brood — "To the Grand Army of the Republic."[2] *Thompson*

Poets of various grades seem to spring up spontaneously in Indiana. Alvin Heiney, a student of mine, in a bit of verse asked for no wings or harp

[1] Let me come in where you sit weeping, — ay,
Let me, who have not any child to die,
Weep with you for the little one whose love
I have known nothing of.

The little arms that slowly, slowly loosed
Their pressure round your neck; the hands you used
To kiss. — Such arms — such hands I never knew,
May I not weep with you?

Fain would I be of service — say something,
Between the tears, that would be comforting, —
But ah! so sadder than yourselves am I,
Who have no child to die.

[2] I am a Southerner,
I loved the South and dared for her
To fight from Lookout to the sea
With her proud banner over me.

But from my lips thanksgiving broke
When God in battle thunder spoke,
With that black demon breeding drouth
And dearth of human sympathy,
Blown hellward from the cannon's mouth,
While Freedom cheered before its stroke.

or crown of gold, only for a chance at a place "on the bleachers where ten thousand Hoosier poets sit." [1]

Two friends at large

Among my most valued friends in the state at large, I counted Dr. John Sloan of New Albany, a native of Maine, a man of friendly and attractive personality, a fine type of the well-rounded country doctor. Sloan devoted the leisure of a busy practice of medicine to the study of the Natural History of the Ohio Valley. He thus acquired a thorough knowledge of birds and crayfishes, beetles and snails, and in later years of bacteria, of which group of organisms he prepared many slides; these, accompanied by slides of plant tissues, he presented to the University of Indiana.

William Dudley Foulke, whose delightful home at Richmond I have at times visited, will appear in later pages.

3

At Cumberland Gap

At the end of a fairly successful year in Indianapolis, I went at the request of Professor Shaler as instructor in his "Harvard Summer School of Geology" at Cumberland Gap, Tennessee. On my way to the Gap, for adventure's sake and accompanied by a young engineer named Harper from Purdue University, I took a cross-country tramp of some days' duration. Coming upon a number of backwoods baseball teams, we occasionally joined in for a game, Harper as catcher, I as pitcher. The possibility of throwing curved balls was just then

[1] A "bleacher" is an uncovered seat outside the grand stand at a baseball game. "Hoosier" is a nickname of unknown origin applied to Indiana folk.

under discussion. I could not do much in that line, but I was more skillful than my rustic rivals at pitching a ball which would readily turn out a "pop fly" — that is, a short hit into the air. As I remember, our teams lost none of the four or five games we played.

My part in the School of Geology was to give instruction in the local flora to thirty young geologists, many of them of marked ability. And to mention this pleasant experience is inevitably to recall our leader's extraordinarily charming personality, his overflowing humor, brilliant simplicity, and absolute naturalness in dealing with everything and everybody. At Harvard any great noise used to be ascribed to student applause at "one of Shaler's jokes," even a clap of thunder being thus accounted for occasionally. *Shaler*

Our encampment on the mountain shelf awakened great interest and some alarm among the native population, one man recalling that just previous to the outbreak of the Civil War fifteen years before, he had seen men in tents there with the flag flying above them at the summit. He was therefore convinced that our presence was a warning and that the people should be prepared. Another incident which contributed to the general gayety occurred when a Harvard student attempted to mount his pony from the right side. The animal, a true son of the South, resented the outrage and left its perpetrator where Brer Rabbit of Georgia was "born and bred" — that is, in the brier patch. *The mountain camp*

During my stay at Cumberland Gap I was elected without warning to the professorship of Biology in the Northwestern Christian University, already being

Butler University

removed from Indianapolis to Irvington, a suburb five miles distant and since included within the city. This being the case, my first professional duty was to steer a dray wagon loaded with collections and apparatus on its several trips from College Avenue to the new site. Coincident with removal, the burdensome original name was changed to "Butler University" in honor of its principal founder, Mr. Ovid Butler of Indianapolis, a broad-minded and fine-spirited member of the Christian[1] Church. The institution making no provision for graduate study, it later became "Butler College," and has done continuously good work in collegiate education. My position was that of Dean of Science, and I spent four years in the service, Herbert Copeland having meanwhile taken my former position in the Indianapolis High School.

Joint studies

As housing conditions were inadequate in Irvington, I continued to reside in Indianapolis for another year, sharing with Copeland a modest establishment at 320 Ash Street. Here we resumed our joint studies of flowers and birds begun at Cornell and continued in Wisconsin. Soon, however, we decided that fishes offered the most fruitful field for original work. Systematic Botany involved travel and expense beyond our reach, and we were not especially drawn to the problems (then inchoate) of cytology, morphology, and physiology. But fishes were everywhere about us. Moreover, the literature of Ich-

[1] "Christian" is used specifically to designate the denomination in question, because its founder, Alexander Campbell of Virginia, hoped that by dropping creeds and going back to the Bible as the basis of faith and practice, all Christian denominations could be merged into one.

HERBERT EDSON COPELAND, 1876

CHARLES HENRY GILBERT, 1880

thyology was inexact and incomplete, with few comparative studies, so that the field seemed wide open, as indeed it was. We planned, therefore, to cover the river faunas, to set accumulated knowledge in order, and to extend it as far as possible.

Sisco of Lake Tippecanoe

Along this line I myself had previously made a beginning with a paper on the "Sisco of Lake Tippecanoe," printed in the report of the Geological Survey of Indiana. That species — called by me *Argyrosomus sisco* — is an offshoot of the Cisco (as the name is now usually spelled) or Lake Herring of Lake Michigan, but separated from the parent stock since the last glacial period. Similar land-locked ciscos occur in Lake Geneva, Wisconsin, and in other deep, clear lakes belonging to the Illinois River system, as the Tippecanoe belongs to the Wabash.

The Johnny Darters

During the course of a year and a half Copeland and I worked together on three sets of investigations, the results of which were later published jointly. These papers were (*a*) a study of the life history of the Johnny Darters — the *Etheostomidæ;* (*b*) the identification of the fishes described from the Falls of the Ohio by Constantine Rafinesque; and (*c*) a catalogue of the fresh-water fishes of the United States. In connection with the first we maintained a well-appointed aquarium in which we reared for observation the ten or twelve species of darters living in the adjacent White River. These we found to be the most fascinating, vivacious, and individual of all river fish. They are not the most hardy, however, and being bred in pure running water, will stand no neglect.

Any one who has ever been a boy and can re-

member back to the days of tag alders, yellow cowslips, and angleworms on a pin hook, will recall his first acquaintance with a Johnny Darter. There lay a little fish, apparently asleep, on the bottom of the stream, half hidden under a stone or leaf, his tail bent round it as if for support against the current. But when you put a finger down, the bent tail straightened, and you next spied him resting a few feet away, head upstream. Nothing had seemed easier than to catch him, but somehow you failed.

Not to know the Johnny Darters is to miss a real joy of boy life. All of them are very little — some less than two inches long and the largest only six or eight at most. They are, nevertheless, the most graceful in form, and many of them the most brilliant in color, of all fresh-water fishes.

Rafinesque

In our second paper we undertook to identify the forms named in 1820 by Constantine Rafinesque, the first student of Western fishes, in his "Ichthyologia Ohiensis," where he described hastily, carelessly, and enthusiastically the various species he had found in the brooks about Louisville. While we were thus engaged, the unique personality of the man himself intrigued us mightily. And some short account of him may be not unwelcome here.

Rafinesque was born in Constantinople of a French father and a German mother. At Marseilles, in early youth, his future career was blocked out along two lines:

> It was among the flowers and fruits of that delightful region that I first began to enjoy life, and I became a botanist. Afterwards, the first prize I received in school was a book of animals, and I became a zoölogist and a naturalist. . . . *Linné, grand génie, j'ai choisi pour guide.*

As a boy also he read many books of travel, those of Captain Cook, Levaillant, and Pallas especially, so that his soul was fired with the desire "to be a great traveler like them." "And I became such," he adds tersely, having framed his life motto in two lines of doggerel:

Un voyageur dès le berceau,
Je le serai jusqu'au tombeau.

Rafinesque in Kentucky

No more remarkable figure has ever appeared in the annals of American science. Clad in "a long, loose coat of yellow nankeen, stained yellower by the clay of the roads, and variegated by the juices of plants," he arrived in Kentucky — on foot — a century ago, a notebook in one hand, a hickory stick in the other, his capacious pockets full of wild flowers, shells, and toads.

In his sketch entitled "A Neglected Naturalist," Copeland said:

> To many of our untiring naturalists, who sixty years ago accepted the perils and privations of the Far West to collect and describe its animals and plants, we have given the only reward they sought — the grateful remembrance of their work. Audubon died full of riches and honor, with the knowledge that his memory would be cherished as long as birds should sing. Wilson is the "father of American ornithology," and his mistakes and faults are forgotten in our admiration of his great achievements. Le Sueur is remembered as the "first to explore the ichthyology of the great American Lakes." Laboring with these, and greatest of them all in respect to the extent and range of his accomplishments, is one whose name has been nearly forgotten, and who is oftenest mentioned in the field of his best labors with pity or contempt.

It is, nevertheless, true that while, as Agassiz said, Rafinesque "was a better man than he ap-

peared," and while he undoubtedly had great insight[1] and greater energy, his work does not deserve a high place in the records of science. His failure seems due to two things: first, his lack of attention to details, a defect which vitiated all his writings; and, second, his versatility, which led him to invade every available field of learning.

Dying almost deserted, in Philadelphia, he was buried stealthily by two or three students to forestall the sale of the body to a medical school for unpaid rent. A whole nation wept for Agassiz. Both men were learned naturalists, both had acquired high reputations in Europe before casting their lot with America. But while Agassiz's big heart went out toward every one with whom he came in contact, Rafinesque loved no man or woman, and died, as he had lived, alone. Yet his last recorded words, "Time renders justice to all alike," reveal a noble stoicism.

Catalogue of fresh-water fishes

Our third considerable piece of work, the catalogue of fishes, was necessarily incomplete, representing only the accumulated knowledge of the time. In succeeding years it was my privilege to add probably half as many more species and yet reduce a large number of names to the rank of synonyms, so often had different authors described the same thing under other names. Take for example *Ictalurus punctatus*, the Channel Cat of the Ohio, which had appeared as a new species twenty-eight times, or the small-mouth Black Bass — *Micropterus dolomieu* — which was not far behind.

[1] It is worth noting that Rafinesque was one of the very first to gain a clear conception of organic evolution, the principles of which constitute the foundation of modern Biology.

4

In the fall of 1876, renting a fine large house left stranded by the collapse of a recent boom, I moved to Irvington, where my daughter Edith was born. The aquaria I left with Copeland, but we still carried on joint work in other lines. With the year 1876, however, our collaboration ended, for on the first of January, 1877, Copeland fell into the White River and died shortly afterward from resultant exposure. Thus out of my life passed my most intimate early friend, and one of the brightest minds with which I was ever associated. His rare intellectual quality I have already described in pages which deal with my college experiences.

Copeland's death

The position left vacant by Copeland's death was filled by our college mate, Brayton, who afterward took up the practice of medicine and has now for many years held the professorship of Dermatology in the Indiana Medical College. This institution was originally a branch of the State University; but in the '60's the connection became purely nominal, as the state legislature voted to discontinue both its medical and law schools, asserting it to be "no duty of the people to help men into these easy professions." And in 1875 the relation, so far as medicine was concerned, was entirely broken — to be resumed, however, on a large scale in 1912, when the Medical College was reëstablished on the modern basis of a teaching faculty.

Indiana Medical College

While engaged with my work in the Indianapolis High School I was also able to spend some time in the Medical College, from which, in the spring of

Doctor of Medicine

1875, I received the (scarcely earned) degree of Doctor of Medicine, though it had not at all been my intention to enter that profession. A certain amount of medical knowledge, I thought, would enable me to teach Physiology better. As a matter of fact, the next year I gave a course of lectures on Comparative Anatomy in the college itself.

Wiley

At about the same time, one of my special friends, Harvey W. Wiley, since noted as the apostle of pure foods and rational sanitation, won his medical degree from the same institution for purposes similar to mine. Wiley, by the way, had preceded me, though not immediately, both in the High School and in the Northwestern Christian University, and he recently recalled to my mind the fact that he was instrumental in my going to Indianapolis. It seems that one of his former professors at Harvard (probably Shaler) had written to him about "a young man named Jordan, said by Agassiz to be his most promising student in Natural History." Consequently when a member of the local school board asked him (Wiley) to suggest a suitable science teacher for the High School, he mentioned me; and Superintendent Brown at once got off the telegram which arrived so opportunely at Cambridge.[1]

Wiley is a man of independent character and rare wit, so that to meet him is to encounter a rush of fresh air, though by some freak of heredity he looks like a conventional, well-nourished bishop. Once presenting himself in silk hat and frock coat at the

[1] The rest of the story (which has already appeared in print) I relate with diffidence and only because Wiley himself appears to set much store by it. Being once asked to mention his greatest discovery in science, referring to Sir Humphry Davy's "discovery of Michael Faraday" my over-enthusiastic sponsor replied, "David Starr Jordan."

door of Girard College, Philadelphia, where, through a whim of its founder, Stephen Girard, no clerical is ever to enter, he was at first repulsed. "We don't allow any clergyman here," said the warden. "The hell you don't," replied Wiley, and was thereupon promptly admitted. *Not a clerical*

From Indianapolis he went as professor of Chemistry to the newly established Purdue University — the State Agricultural College of Indiana — at Lafayette, where he was an active spirit both inside and outside the institution. Once the president, a prim and fussy personage, haled him before the board of trustees on three charges: (*a*) he failed to attend morning prayer; (*b*) he rode a "cartwheel" (bicycle) in a "grotesque costume" (knickerbockers); and (*c*) he played baseball! The further complaint that he belonged to a political (Republican) club was, however, not pressed. But the same official having made a futile attack on college fraternities, Sigma Chi, then politically powerful in Indiana, virtually compelled his resignation from the presidency.

When Wiley and I were made physicians in name, medical science was still in the medieval period, almost nothing being known of what constitutes modern medicine. The existence of microscopic organisms in connection with disease was but dimly recognized, and the natural history of these creatures not understood. The word "bacteriology" still slumbered in the Greek lexicon, its component parts widely separated. Moreover, the science of pharmacology had yet to be developed, the effect of medicine on the human organism being then mainly a matter of experience and guesswork. Antiseptic surgery was an unknown art; when a surgeon cut into the *Concerning medicine*

human body, he took his chances on gangrene, blood poisoning, and other ills he could neither foresee nor avert. Anatomy was studied in savage fashion in crowded, unventilated rooms by a class of students who, in general, seemed to care little for personal hygiene. Nursing was largely experimental, though it often reflected the fine spirit shown by many physicians, especially by the beloved "family doctor."

Great discoveries

At about this time, however, certain investigators had initiated researches destined to base the art of medicine on solid science. In London, Tyndall was making his studies of microbes at rest in dust or floating in the air; Lister of Edinburgh had shown the amazing results to be derived from clean hands, pure air, and antiseptics; at Paris, Pasteur, greatest of them all, was beginning his work on the mildew of silkworms, finding it a problem of biology and not of chemistry, as the blight proved to be a parasitic plant. The net result of all this effort was the discovery of myriads of animal and plant organisms, too minute for the naked eye, but readily studied under the microscope and easily reared in artificial cultures. All phenomena of fermentation, putrefaction, and infectious disease were then seen to be due to the presence and growth of such infinitesimal creatures. Pasteur, for instance, discovered that fermentation was not spontaneous souring, but "life without air," the organisms breathing and digesting in sugar solution. Tyndall pictured a battlefield as a gigantic breeding place of the germs of putrefaction which, if visible, would appear as a vulture horde infinitely more destructive than any aggregation of birds of prey. Linnæus once sug-

gested that three flies (with their progeny) would devour a dead horse more quickly than a lion; but three bacilli would do the work even more rapidly and more completely than any number of flies.

Floating matter in the air

In 1877 I wrote for *The Dial* a review of Tyndall's "Floating Matter in the Air," remarking that now we were beginning to find out what our enemies were, we should be able to fight them. That statement proved prophetically true; medicine at present stands on the firing line of science, and in no department of human knowledge has the forward movement been more sound or more impressive.

5

Efforts for a university position

In Indianapolis, for the first time since leaving Cornell, I felt that my work was being appreciated, not only by my students — who were always enthusiastic — but also by the powers in control. Ambition, however, impelled me toward university work, and I had no desire to remain in a high school. I therefore used to envy my friend Snow, already established, and for a lifetime, in a college good enough to call forth his best work. My removal to Butler I regarded as temporary only, though useful as restoring my college foothold, lost for the time on leaving Cornell and Lombard. I accordingly made numerous though unsuccessful efforts to secure a position in larger institutions — among them Purdue, where Wiley vainly tried to organize a Natural History department of which I had been promised the headship.

This disappointment was only one of several at about the same period. Before leaving Appleton

Wisconsin I had been assured of an appointment as professor of Zoölogy in the University of Wisconsin, Augustus L. Smith of Appleton, a personal friend, being the president of the board of trustees of the university and possessed of large personal influence. But the governor of the state failed to reappoint him for the coming term. I thus lost my "friend at court," and Dr. Edward A. Birge of Harvard, a man no older than I and admirably fitted for the work, was elected to the coveted place. This was the greatest of my disappointments, for the University of Wisconsin seemed to me the most typical representative of the state university system of the whole country. As I write, Dr. Birge (after forty-five years of devoted service) has become president of the institution, succeeding the gifted geologist, Dr. Charles R. Van Hise, whose sudden death left a great gap in the ranks of educational leaders.

Princeton Meanwhile another prospect opened, to be suddenly closed for a peculiar reason. From Dr. James McCosh, president of Princeton, I received a letter stating that he had my name under consideration for the professorship of Zoölogy, and asking for some evidence of fitness besides my youthful booklet on the Vertebrates of the Eastern United States. This request I fulfilled to the best of my ability, and the correspondence proceeded until Dr. McCosh wished me to "unbosom" myself on religious matters. Still under the influence of Agassiz's philosophic views, I made what I regarded as a conservative and reasonable response which I thought would be satisfactory. It proved inadequate, however; at least I did not again hear from McCosh, and a much older man, George Macloskie, unquestionably ortho-

dox and innocent of any disturbing knowledge of Biology, was brought over from Scotland to fill the vacant place. Afterward McCosh himself became an evolutionist, but of an *a priori*, logical, ultra-Ulster type, not much influenced by facts of nature.

Vassar

Having failed to secure the Princeton professorship, in 1876 I became a candidate for a similar position at Vassar, and afterwards for one at Williams, but without avail. The president of Vassar kindly wrote that he "suffered from the embarrassment of riches," which afforded me only moderate consolation!

Michigan

My name was next presented to the University of Michigan, but President Angell said that although my recommendations in Zoölogy were of the highest, and in Botany good, those concerning Geology and Physiology were less complete. Moreover, they were "getting along pretty well" as they were, without an expert in any of those subjects. This case illustrated the lack of specialization even in the state universities of that period, and the satisfaction of their executives in being able to "get along" without trained teachers of science.

Cincinnati

At about the same time I was selected for the professorship of Natural History in the University of Cincinnati by the acting president, Dr. Henry Turner Eddy, my excellent teacher in applied mathematics at Cornell. But the then board of trustees failed to ratify, giving as the more or less legitimate reason that they already had among their dozen or so professors three from Cornell — Eddy, Frank W. Clarke, and my classmate, Edward W. Hyde. One member, it is reported, went even farther, remarking that they had a professor of "History," and he ought to carry the "Natural

History" as well. When the chair again became vacant a few years later and was offered to me, I recommended my student and colleague, Gilbert, who was promptly chosen.

Meanwhile efforts were made each year by Dr. Wilder and others to get me back to Cornell, but the positions suggested were for one reason or another never quite definitely offered.

Imperial University of Tokyo

In 1878 I was attracted by the prospect of a career which appealed delightfully to my spirit of adventure, as my Cornell friend, Yatabe, who had become professor of Botany in the new Imperial University of Tokyo, tried to secure me for the chair of Zoölogy in the same institution. While waiting for a possible appointment I read all the available books on the educational system of Japan. These were not very encouraging, because instruction there seemed to be bound by tradition, with very little hope for freedom of teaching except through the influence of the foreign scholars called to different chairs in the university. But the charms of Japan outweighed any dread of bureaucracy I may have felt.

Before the matter was settled, however, Yatabe became head of the new Imperial Normal School, and the university selected for the position to which I aspired Dr. Edward S. Morse, a teacher whom I had known and greatly admired at Penikese. Morse was thirteen years older than I, a favorite student of Agassiz, and singularly well fitted for the position in question, not only on account of his extensive training in Zoölogy, but also because of his extraordinary cleverness in drawing and his fine appreciation of Japanese art, especially ceramics. His

blackboard drawings made with both hands were a constant delight to his students everywhere.

Looking back over these various experiences, I am reminded that I never got anything I tried for. And it further occurs to me that for this there were three reasons which I did not realize at the time: I was bent on being a specialist in Zoölogy, I had been trained at Cornell, a fountain head of educational and other heresies, and I was a "Western man," though not yet aware of the fact myself. Afterward these same features seemed to appeal to university authorities and they, in turn, sought me out. *Handicaps*

CHAPTER SEVEN

I

In the summer of 1876 I set out to explore the fish fauna of the streams of Georgia, a large region from which practically no records had ever been made. For this trip I took with me my wife and young Gilbert, who had just graduated from the Indianapolis High School, and who, under Copeland's influence, had turned toward Natural History. He proved to be the keenest and most exact student I have ever had, excelling as a scientific critic.

The first copy of my "Manual of Vertebrates" arrived just as we were leaving home. Stopping at Livingston, Kentucky, for a little study of Rock Castle River, we caught a large eel — *Anguilla rostrata* — which we identified by the Manual — the first species, therefore, to be so honored. Afterward we built a fire in the woods and roasted the fish, which was fat and toothsome.

Harlan and McCreary

A little farther on we came into London, county seat of Laurel, where a large political gathering was being held jointly by the two opposing parties. At this meeting the competing candidates for the governorship, John Marshall Harlan and James Bennett McCreary, debated in friendly fashion. If I remember rightly, they even shared a room together in the little rustic inn. Both were able men, but Harlan, the Republican, knew that he had not the slightest chance of election, and McCreary indeed carried the day. The latter afterward had an honorable career in the United States Senate. Har-

lan was later appointed to the Supreme Court of the United States, where it was his function to prepare and read, in 1896, the final decision which saved Stanford University, for which reason all Stanford men and women should think of him with gratitude.

Lookout Mountain and Missionary Ridge

On the way south through Tennessee we visited Lookout Mountain, a noble plateau with almost vertical sides, as the hard limestone on top saves it from rain erosion, and the Tennessee River, making a wide sweep around, has cut away the softer rock and removed the talus which otherwise would naturally gather at its foot.

Crossing the neighboring Missionary Ridge, a noted battle ground of the Civil War, we came across several little darkies in the persimmon trees and were led by them to a school where the colored teacher was struggling with the exports of Maine as laid down in the geography. After a little while he suddenly turned to me and said: "And now, Boss, won't you say something to 'scourage us?"

Our working headquarters we established at Rome, Georgia, at the junction of the red waters of the Etowah (locally "High Tower") from the east, and the clear Oostenaula from Missionary Ridge on the north. Here I encountered a custom common in the South, each product of the union of two nearly equal streams receiving a new name. Thus the two rivers at Rome form the Coosa; this, running southward, joins the Tallapoosa to form the Alabama, which, in turn, uniting with the Tombigbee, helps to form the Mobile.

Only eleven years had passed since the Civil War, and many of the inhabitants of the region

were still very bitter. "We have been puked on blue," coarsely explained our host, to justify a certain coolness of welcome. They hanged a negro during our stay, and people from the whole county turned out to see the execution, although steady-headed citizens freely admitted that a white man would not have received the extreme penalty for the offense in question. Several of the wagons were crowded full, often with white men and women sitting on the laps of the blacks — for to this there was no objection "so long as the nigger knew his place." Indeed, one might be as friendly with a negro as with an intelligent dog, where no presumption of equality was involved. But to eat at the same table — never!

White and black

The day of the hanging we left town for a trip up the river, and on the way noticed many men coming in armed with rifles. It later appeared that some one had started a senseless rumor that a negro uprising would take place. The nerves of the people were consequently on edge, and the accidental discharge of a musket by a guard produced a panic in which several persons were trampled, two or three of them to death.

From Rome we traveled eastward to the Chattahoochee, a fine large river; yet its muddy banks thick with canes and sometimes with grapevines and briers made the use of the net impossible except in the upper reaches about Gainesville. Through Atlanta we crossed to the Ocmulgee Basin, where at Flat Shoals we found the South River very convenient for our purposes. But it took some effort to make the proprietor of the large factory there understand that we were really messengers of

Ocmulgee Basin

peace, wanting nothing but the small fishes which infest the shallows below his little cascade.

Stone Mountain

On our way to Flat Shoals we saw on the left side of the train what seemed to be a gigantic boulder, a thousand feet in diameter. This was Stone Mountain, of which we had never before heard. Greatly impressed, we left the train at the first station and went back to climb the stupendous rock. For notwithstanding its size it looks like a boulder, although, as a matter of fact, it must owe its stark isolation to erosion of the softer deposits of which it was once the core. It appears that Borglum, the sculptor, began the work of carving on its majestic side a panoramic frieze symbolic of incidents of the Civil War, an effort checked by the war in Europe.

Our expedition as a whole was extremely successful, and its results were embodied in a paper entitled "The Fishes of Upper Georgia," the first of my numerous monographic reviews of local faunas.

In December I was called to Columbus, Ohio, by John H. Klippart, State Fish Commissioner, who wished me to write an account of the food fishes of Ohio. This I did fairly well during the course of the winter.

Hayes and Tilden

Klippart spoke frankly to me of the difficulties which then beset his friend and neighbor, Rutherford B. Hayes, the former governor. Mr. Hayes was about to start for Washington to take his seat as President of the United States, his title clouded by an election of doubtful validity, forced through by a hard-minded group of politicians whom he could never honorably serve or please. A man of high

ability and unblemished character, he made no compromises with corruption or injustice. He was therefore not at ease in the presidential chair, and suffered the contumely cast upon him by dissatisfied partisans. I myself had voted for Tilden, having — since 1872 — lost all confidence in the dominant or Conkling faction of the Republican party. And it seemed to me, everything considered, that Tilden was fairly elected, but that his own high sense of duty prevented him from contesting the final decision. To have done so in those critical times might have led to bloodshed and perhaps to civil war.

Four years earlier, when Grant was nominated for the second time, I should have cast my ballot for Greeley had I not been too recent an arrival in Illinois to have the privilege of voting. I thought then — as I do now — that moderation and conciliation toward the South would have been a wise and successful policy. But "waving the bloody shirt" was preferred by the Republican leaders. And the argument that the Republican party had saved the Union was used as a cover by which the financial interests of the Northern cities got a strangle-hold on American public affairs, which they have never entirely relinquished.

Greeley's defeat

In connection with my studies for the Ohio report, I visited the venerable physician and accomplished naturalist, Jared P. Kirtland, at his home in Cleveland. Dr. Kirtland was the author of an excellent memoir on the Fishes of Ohio. He was much interested in the task I had been set, and gladly turned over to me the remainder of his collections. Later in the year I was fortunate in

finding myself the guest of another of the older naturalists. Dr. Philo R. Hoy of Racine, a fine-spirited worker who also gave me his fish collection.

2

In the early summer of 1877 I made my first visit to Washington, where I became acquainted with Professor Baird, Dr. Theodore Gill, Dr. Elliott Coues, Dr. William H. Dall, Robert Ridgway, and the rest of the scientific coterie at the Smithsonian Institution, of all of whom I shall say more by and by. In the course of my stay the new invention of Professor Alexander Graham Bell, the telephone or "far speaker," was brought over to the Smithsonian to be tested. Connecting the basement with the fourth story, we were greatly amazed and delighted to find that we could hear over the wires. In case of doubt, one would put his head out of the window and call: "I'm talking through the telephone; can you hear me now?"

Invention of the telephone

In Sacramento thirty-five years later I told this story by the Poulsen Wireless through the air to an operator at Stockton, forty-eight miles away, and he reported it accurately back to me. Afterward, by the same system (which operates on the principle of the tuning fork) messages were carried enormous distances through the air, from Washington to Honolulu and Panama, and recently farther, I believe.

In 1916, in connection with an effort to illustrate telephonic communication across the continent, I was asked to give a short lecture on world peace from my home at Stanford to the members of the

Speaking across the continent

Quill Club in session in New York City. The applause, properly timed, came back with singular and uncanny effect, but the words of the chairman who introduced me I heard distinctly. To add a bit of local California color, connection had also been made with the Cliff House in San Francisco, so that my audience could hear at the same time both me and the surf of the Pacific.

Printing a letter

Another remarkable invention, the first typewriter, was sent to the Smithsonian to be tested at about the same time as the telephone. On it I wrote to my father, imagining with enjoyment his surprise at receiving a letter in print. And for a number of years afterward the typewriter was a curiosity rather than the business necessity it has now become.

Exploration of Southern rivers

In August of this year I set out on a second summer exploration in the South, this time with a larger party. At Morristown, Tennessee, Dudley and I (coming by rail from the East) were joined by Brayton, Gilbert, and three other students — my cousin, Edward Ely of Sycamore, Illinois, John H. Oliver, since a well-known surgeon of Indianapolis, and Wade Ritter, afterward an attorney in Colorado, whose son later followed me to Stanford University. These five had tramped across from Rock Castle River, past Cumberland Gap, to meet Dudley and me.

On the way through Virginia I sat opposite a young woman who was wearing two or three medals earned for "good deportment" at a woman's college in Christiansburg. Soon she began to talk, asked me to share her lunch, and displayed a number of brass buttons cut from the uniforms of boys in the

neighboring military school of Emory and Henry College. When I left the train she inquired as to my profession. "Teacher," said I. With a disconcerted look she replied: "Oh, I thought you were a drummer!"

From the end of the branch road above Morristown our party walked up the French Broad, the most picturesque of Southern rivers, through the Great Smoky Mountains to Asheville, North Carolina. About Asheville they lovingly call the French Broad country "The Land of the Sky," a name borrowed from the title of a novel by "Christian Reid," which deals with that region. The people there seemed a bit jealous of the Colorado Mountains — higher, they admitted, but certainly not as beautiful.

About Asheville

The early stories of Mary Noailles Murfree ("Charles Egbert Craddock") dealt with the mountain folk of the upper French Broad, the peculiar minor key of their lives being sympathetically reproduced. Among these I particularly recall the pathetic "Harnt that Walks Chilhowee," "The Prophet of the Great Smoky Mountains," and "The Despot of Broomsedge Cove."

Now a noted tourists' resort, though merely a mountain village at the time of my first visit, Asheville is also the county seat of Buncombe, a name which has enriched our language. Back in the '50's, Buncombe sent a flamboyant orator to the state assembly at Raleigh. After a flight of fatuous eloquence he explained to his colleagues that they need pay no special attention; he was "only talking for Buncombe." The word therefore came to be used for pretentious and empty discourses aimed

Buncombe County

at a home audience. In 1859 Thoreau said that John Brown was "not talking to Buncombe or his constituents anywhere."

But to get back to my party. Leaving Asheville, we next followed to its source the Swannanoa, a charming tributary of the French Broad, and climbed Mount Mitchell in the Great Smokies, the highest mountain east of the Rockies.

Mitchell's Peak

This wild, rough mass locally known as Black Mountain, beset with dark balsam firs, soft moss, and many subalpine plants, rises 6711 feet above tidewater — that is, about 500 feet higher than Mount Washington. It does not, however, give the same impression of altitude because of the richness of its vegetation under a warmer sky. On its towering summit, under an overhanging rock, we passed a night.

[As a matter of fact it has two summits of about equal height, Mitchell's Peak and Clingman's Dome, named respectively for Professor Elisha Mitchell of the University of North Carolina, and General T. L. Clingman. The controversy between these two gentlemen as to which top is the higher Mitchell closed dramatically by a fatal fall from one of his cliffs, and on the very summit of the Peak, after a picturesque funeral, he was buried in a rock-hewn sepulcher over which the wind in the balsams sighs a perpetual requiem.]

The Santee Basin

Returning then to Asheville, we started on a long and picturesque stage trip through the hopefully named hamlet of Travellers Rest down to Greenville in South Carolina. Here and at Spartanburg we explored the headwaters of the Saluda and Ennoree, the latter a tributary of the Broad which

unites lower down with the former to make the Santee. Afterward, passing westward, we collected from the headwaters of the Savannah, Chattahoochee, and Oconee to Atlanta.

Stephens

In Atlanta we called on Alexander H. Stephens, late Vice-President of the Confederate States, who entertained us with interesting reminiscences. Stephens was a man of dwarfish stature but powerful mind; he had been strongly opposed to secession and all its ways, yet when his own state (Georgia) went out of the Union, he felt, as did Robert E. Lee and others placed in a similar position, that he had no alternative but to espouse the Confederate cause.

Rome again

We next brought up at Rome, my former station on the Etowah. Here our gruff host of 1876, referring to Gilbert, remarked, "I see you keep the same cub." In Rome we secured a number of young mocking birds, of which two, Mimus and Charmian, developed into superb singers. Once I put a tame brown thrasher, an excellent songster not much inferior to the mocking bird, into the cage with Mimus. The thrasher was the larger, but Mimus behaved like a veritable tyrant, never allowing him to sing at all.

Returning northward, we climbed Kenesaw Mountain, fought over in the Civil War, and then moved on to examine the fishes of Chickamauga River, similarly famous.

The large collections made on this trip were duly described by Jordan and Brayton in Bulletin 12 of the United States National Museum.

At Christmas, Baird placed in my hands for critical study all the specimens of salmon and trout

Trout of the Northwest

which had been gathered by the Pacific Railway Survey of the '50's and by subsequent collectors, the most important series being from the new hatchery on the Clackamas River in Oregon. Previous investigators with inadequate material had greatly exaggerated the number of actual species, and the whole matter was in utter confusion. My tentative conclusions, published in 1878, were afterward supplemented by the intensive operations (soon to be discussed) of Jordan and Gilbert in 1880. Of the salmon there are five very distinct species on the Pacific Coast; among the trout, species are numerous and very closely related, shading off one into another.

Baird asked to have common names attached to the different forms. For the trout of the coastwise streams, the *Salmo irideus* of Dr. W. P. Gibbons, I naturally suggested "Rainbow Trout," and I may note that the big fish of the river mouths and channels, the "Steelhead," is merely the sea-run adult of the "Rainbow." I should further explain that the so-called "Rainbow Trout," since distributed the world over from the hatchery at Baird on the McCloud River, is a distinct species — *Salmo shasta* — which for convenience I call "Shasta Rainbow."

Another fine form with bright crimson spots — *Salvelinus malma* — had been sent to Washington from the upper Sacramento, with the comment that the landlady at Upper Soda Springs declared it looked "like a regular Dolly Varden." This likeness to the "plump, coquettish little minx" of Dickens' "Barnaby Rudge" pleased Baird, and he remarked: "That's a good name; call it Dolly Varden." And Dolly Varden it remains to this day!

3

Second trip South

The following summer (1878) I went on another trip to the South and with a still larger group of companions. These included Brayton, Gilbert, Barton W. Evermann and his wife — both workers in my laboratory at Butler and later at Bloomington, while with Evermann himself my scientific relations have been continuous — Miss Clapp, whose acquaintance I had made at Penikese, and several excellent young students. Among the last were Charles Merrill, afterward partner in the well-known publishing firm, the Bobbs-Merrill Company of Indianapolis, Charles Moores, a cousin of the former, also a sincere and delightful mountain lover, and Horace G. Smith, a genial young fellow.

This year our line of march lay from Somerset, Kentucky, past High Bridge and the quaint "Shaker" settlement at Pleasant Hill, to Cumberland Gap, thence by way of Jacksboro and Wolf Creek to the French Broad, then across the "Great Smokies" and Blue Ridge to Rabun Gap and the Gorge of the Tallulah in northern Georgia — 550 miles on foot, besides occasional stretches of railway, the whole consuming just one month's time.

A tragic situation

For a little while one day an elderly lady shared my seat in the train. Entering into conversation, she recounted an experience which had shadowed her life ever since the Civil War. Her plantation in northern Mississippi lay near the battlefield of Shiloh, between the two opposing armies. A young Union sergeant from Ohio, leader of a little picket guard, used to come sometimes to see her to talk

about his mother and sister and show their pictures, while she listened with womanly sympathy. But one day when her brother, a Confederate officer, was in the house, she heard him and his companions laying a plan to entrap the little company. By and by the young Northerner appeared for his usual visit; her mind was now torn as to her duty. Could or should she warn the boy? Would not that be disloyalty to the Confederate Cause? Finally she let him go without a word. Afterward her brother's men brought him back to the house to die; and the question as to whether or not she should have spoken had ever since tortured her days.

Change in angle of vision

At Crab Orchard Springs, Kentucky, I met a young fellow who told me of a "freak" in his town, a chap who never touched whisky. "Whisky was good if you didn't take too much of it; everybody knew that." And yet thirty years later Lincoln County went "dry" by its own vote. The rest of Kentucky and the rest of the country have now gone with it. They say that "human nature does not change." True, but the angle of vision may change relatively quickly and mightily.

After various other experiences in the Kentucky upland we reached the French Broad. Duplicating now the trip of the previous summer, including a stay at Alexander's charming farm on the river, and another night on Mount Mitchell, we again followed the Swannanoa back to Asheville. Thence we continued our walk southward and westward, past Brevard and Hendersonville, along the upper French Broad nearly to its sources in the Blue Ridge and Nantahala.

The mountain wall of the Blue Ridge is par-

ticularly delightful because of its masses of outcropping white quartzite set against the "piney woods" and for its heavy growth of Rhododendron, Azalea, and Kalmia — the "laurels" of the mountain side. Of special interest to us, also, was the Spanish Oak — *Quercus falcata* — the most attractive of all the many forms of that genus, with its long, dagger-shaped leaves. On the road we straggled along in groups, the party in advance marking every fork with a branch of Rhododendron flowers, and so laying out "the Rhododendron Trail." This precaution was constantly necessary in a region where all paths diverge and very few lead anywhere in particular. Most of them, in fact, were like Thoreau's "Old Marlborough Road," merely

The Rhododendron Trail

> . . . a direction out there,
> A bare possibility of going somewhere,

finally "dwindling to a squirrel track and running up a tree."

Passing along the crest of the Blue Ridge, we came upon many beautiful waterfalls which drop from the plateau behind.

> Long Fall, High Fall,
> Green Fall, Dry Fall,
> Saluda and Conness —

sang Smith, our topographical poet, omitting, however, the still more romantic Toxaway, which lies beyond. One day we climbed the lofty bald summit of "Cæsar's Head," overlooking the picturesque valley of "Walhalla"; one night we spent around a campfire on Whitesides, a flat-topped quartzite

Smash Wagon Ford

mountain. Farther on we splashed across War Woman Creek by way of the "Smash Wagon Ford," noted all through that region; and rightly named it is, for in the middle of the stream one comes to a jutting shelf of rock with a sudden drop of four feet or more. But as there were then no bridges anywhere about, and no other way around, it was a case of "Hobson's choice."

Another day still took us through Rabun Gap to the headwaters of the Savannah in Georgia, and so into the finest mountain gorge of the whole Appalachian chain, that of the Tallulah, the "terrible river" of the Cherokees. This untamable stream, in a course of three miles of continuous foam and with a total vertical drop of 1400 feet, storms down what I may call a gigantic, irregular staircase (or broken, stratified, inclined plane) of white quartzite in a series of innumerable cascades and five distinct cataracts, cutting meanwhile progressively deeper and deeper into a densely wooded chasm.

Falls of Tallulah

The several falls, moreover, are quite unlike each other in their wild beauty. The three lower ones we found almost inaccessible from their tangle of grapevines and brambles. Lodore, the uppermost and least interesting, is a swift, flumelike rush of forty feet. Tempestia plunges thirty feet straight down its cramped channel on to a bench of harder rock, whence it takes a clear leap of fifty more. The wild and twisted Hurricane, eighty feet high, hurls itself against the chasm wall with a violent current of air. Oceana is made wonderfully beautiful by a peculiarity of the geological formation. The local dip of the quartzite being one of almost forty-five degrees to the southeast, in its fourth fall

the river slides placidly over the steeply inclined surface until, about halfway down, it strikes another hard stratum four feet higher and with edge set at right angles to the preceding, so that it is forced to rise to pass the obstruction. Bridal Veil, similar to Oceana though lower and less fine, presents its own special feature, a series of potholes a foot or two in diameter and about four feet deep, worn in the solid quartzite. Just below it, also, the vertical walls of the chasm rise to the height of some 800 feet, higher than in any other east of the Royal Gorge of the Arkansas in Colorado. Thus the Tallulah glen, though not easily reached from anywhere, is one of the beauty spots of the South. Not far away Toccoa Fall, a perpendicular leap of 186 feet down which a bright little stream dashes itself into lacelike spray, adds its lesser charm to Rabun County, the northeast corner and most attractive part of the whole state of Georgia.

Natural History talks

In the evening, sitting in front of a little mountain cabin, Brayton, Gilbert, or I would give a talk on some phase of the Natural History of the region we had that day passed over. The Botany was always interesting, and the Geology usually so. These discussions were much appreciated; and Evermann insists that he then learned more science from me on the road than in my laboratory from which he finally took his doctor's degree.[1]

As we went our way, I picked up the following indigenous song:

[1] In a letter dated August 7, 1919, he also says: "The one great thing in my life that did more than any other to make me a naturalist was that summer with you. That settled the matter with Mrs. Evermann and myself. We decided then and there to be your students a little longer, and we have never ceased to be such even to this day."

Native songs

A soldier sat by the road one day
And he was looking very gay,
For on his back was a bag of meal
Which he had stole' from an old tar-heel.[1]

He built him a fire to bake his bread
And when he had done he gayly said:
"Nothing in this world surpasses
Good old corn bread and sorghum molasses.

"In Alabama they eat peas,
In Tennessee just what they please,
In North Carolina, tar and rosin,
But Georgia girls eat goobers[2] and sorghum.[3]

"By and by, by and by,
Marry a girl with a bright blue eye.
Georgia girls there's none surpasses,
For they are fond of sorghum molasses!"

Patting songs

At the "Pine-laden Inn for Collard," farther on, we heard two "patting songs"; that is, songs accompanied by rhythmical slaps on the thigh to mark time in dancing:

Round the ring, Miss Ju'ly.
Round the ring, Miss Ju'ly,
O long summah day!
The moon shines bright,
The stahs look light,
O look away ovah yondah,
See some pretty little yallah gal
And tell 'eh how you love heh!

Geo'gia rabbit, whoa, whoa,
Geo'gia rabbit, whoa;
Stole my lovah, whoa, whoa,
Stole my lovah, whoa.

[1] A native of North Carolina. [2] Peanuts.
[3] The broom corn, from which is made a syrup inferior to the molasses of the sugar cane — *Saccharum* — of farther south.

Gwine t' git 'nodah one, whoa, whoa,
Gwine t' git 'nodah one, whoa,
Just like t' odah one, whoa, whoa,
Just like t' odah one, *whoa!*

Typical negro melodies

The religious songs of the black folk are varied and interesting, though frequently incoherent and irrelevant, even the words often meaningless, but the melody sometimes exquisite. The best are sung in a strange minor key; some of them, like "Swing Low, Sweet Chariot" and "Steal Away" have been made familiar by troupes of Jubilee Singers.

The following, though not generally known, is a typical song of Tennessee:

The Gospel train am comin',
She's comin' round the cu've.
I hea' her whistles tootin',
She's strainin' every ne've.
Git on boa'd, li'l chillun,
Dey's room for many a moah.
She's landed many a thousan'
She'll land as many moah,
She'll stop at Inskip station, *etc.*

And a touching fragment from East Tennessee I shall never forget:

I hea' my chillun callin',
I see their wa'm teahs fallin',
  And I-must-go.
Foh I was bawn in Geo'gia,
My chillun live in Geo'gia,
  And I-must-go.

Other refrains were, as usual, concerned with matters of faith:

Religious refrains

'Tis the old-time religion,
And it's good enough fo' me,
It was good fo' Paul an' Silas,
And it's good enough fo' me.
It was good fo' Stiles and Kendall,
And it's good enough fo' me.

I tell ye' what I love the best,
It am the shouting Methodest;
I'se Methodest bred an' Methodest bo'n,
And when I die they's a Methodest gone!

Some say that John the Baptist
Was nothin' but a Jew,
But the Holy Bible tells us
He was a preachah, too.
I'se listenin' all the night long,
I'se listenin' all the day,
I'se listenin' all the night long,
To hea' some sinnah pray.

Beaufort

At Toccoa City the others left us, while Gilbert, Brayton, the Evermanns, and Miss Clapp went on with me to Beaufort, North Carolina, where we spent a month or so in the study of fishes. Beaufort is a picturesque watering place close to the open ocean, but protected — like Venice — by a long sand spit. During our stay we lived in the Atlantic Hotel, a mildly fashionable summer resort. Among the boarders was a stylish young woman (not so young, however, on closer inspection), who confided to us that she was given free entertainment on condition of making herself attractive to the guests. By Dr. Brayton she was christened "*Spurius purpureus*," for reasons easily discerned at short range.

The offshore spit, which follows with only occasional breaks the whole coastline of North Carolina, is made up of material first washed down by streams and rains from the adjacent, low-lying, sandy pine woods, to be then hurled back by the strong currents outside. It culminates in Cape Lookout and Cape Hatteras, the latter forming the stormy divide between north and south and throwing the Gulf Stream far out into the ocean.

The Dismal Swamp and Lake Drummond

Leaving Beaufort, we took a little steamer from Newbern through Pamlico and Albemarle sounds, then into the Dismal Swamp Canal and so on to Norfolk — a trip of much interest botanically and otherwise. The banks of the canal were lined with the showy white-flowered *Stuartia*, an American cousin of the Chinese *Camellia*. Deeper in, one sees multitudes of picturesque cypress trees, which form abrupt angles or "knees" at the water level. On these projections frogs sit, and sometimes long, slim, striped water-snakes rest there, dropping into the water when disturbed, and making on the surface as they recede the letter "S" in endless succession. Here also lives the little rice-field fish — *Chologaster* — of antiquated type, a supposed ancestor of similar fishes, blind and colorless, which frequent the cave streams of Kentucky, Indiana, and Missouri.

Midst of it all lies Drummond, "the Lake of the Dismal Swamp," a round sheet of water about five miles across. To me its basin has an appearance of having been formed by fire at some time when the swamp was dry, so that a big hole was burned out; but I may be wrong. The water, although the color of black coffee like that in evergreen bogs

generally, is nevertheless excellent for drinking purposes, the dark stain having apparently antiseptic values. I was told that ships from Norfolk Navy Yard often fill their tanks with Drummond water, as thoroughly wholesome and the best available.

Brooks

At Old Point Comfort we found Dr. Brooks in charge of the first marine research station under academic auspices, he being already permanently located in the new Johns Hopkins University at Baltimore.

4

Proceeding next up the Potomac to Washington, Gilbert and I spent there a part of the month of September before our return to Irvington. I was now brought into close and permanent relations with Baird, Gill, Goode, and Coues. Of Goode I have already written. Baird, then assistant secretary of the Smithsonian, was one of the most helpful and broad-minded men in the whole history of American science. We used to call him "Grandfather of us all," for in his day there was no struggling naturalist to whom in one way or another he had not given assistance. His influence on American Systematic Zoölogy exerted in the direction of frank exactness was predominant and lasting, so that writers both in America and Europe often spoke of the "Baird School of Naturalists." For example, he taught us to say, not merely that "the birds from such and such a region show such and such peculiarities," but that "I have examined several specimens of the Horned Lark, which indicate the presence of such and such peculiarities."

The "Baird School"

The first was taken by John Doe at Medicine Bow, April 12, 1890, and is numbered 25001 on the National Museum records." Thus he would always have it possible for others to distinguish (by reference to the actual material on which one based an opinion) between what one really knew and what one only surmised. He was a man of large stature, heavily built, always serene and especially interested in coöperation as distinguished from rivalry in scientific work.

Theodore Gill

Dr. Theodore Gill was for most of his life a volunteer assistant in the Smithsonian, where he was assigned special rooms. Giving the greater part of his time to the study of fishes, or rather to what others had written of fishes, he was also a high authority on mollusks and mammals. Specimens he did not care to handle except in the form of dry and clean skeletons; it was therefore a familiar joke to bring him a fish and say that he "might be interested in it because he had probably never seen one before." But he had an unprecedented mastery over the literature of science and a keener appreciation of the meaning of structure in classification and in evolution than that shown by any other naturalist. Nearly all of the few misconceptions in his work come from trusting to other writers in regard to statements inadequately verified by them and not at all by him.

In my own work Dr. Gill was helpful and eager to give all possible assistance and information. Many other young naturalists had a similar experience. But with Dr. Günther of London, whose genius ran in a totally different channel, he was in chronic collision about matters in which either one

may have been technically right from his own point of view.

In his early twenties Gill went on an expedition to the island of Trinidad, his only field work of any kind. In later years he seldom left Washington, living at the Cosmos Club but spending the better part of every day about the Smithsonian. Of peculiar temperament, he failed to finish any single large piece of work, but published between 1858 and his death in 1914 some three hundred minor papers which in the aggregate have given his name an imperishable place in the history of Ichthyology. In 1905 I dedicated my chief general work, "A Guide to the Study of Fishes," to "Theodore Gill, Ichthyologist, Philosopher, Critic, Master in Taxonomy."

Master in Taxonomy

Taxonomy, I may explain, is technical classification of organisms — an attempt to express as well as possible by different categories (order, family, genus, species) the lines of descent and ramification through which animals and plants have acquired their present forms. A classification truly natural — that is, based on structure, embryological development, geological history, and genetic descent — is a transcript of our actual knowledge of the evolution of the forms in question. From this point of view, Taxonomy is the perfected product of all Natural History research.

Coues

Dr. Elliott Coues, an accurate investigator as well as a brilliant and versatile writer with a special gift for bringing his work into popular comprehension, was naturalist of the Geological Survey and the leading American ornithologist after Baird turned away from birds to administrative work. Coues' bird biographies rank with the best, though perhaps Irving's sketch of the Bobolink and Muir's

of the Water Ouzel [1] remain in their way unapproached. He had, however, various eccentricities which he cultivated as a means to secure attention. On the walls of his den in the Survey he posted large placards, two of which read as follows:

Coues' dread of visitors

I DREAD INTERRUPTION MORE THAN THE DEVIL.

THE VERY FACT OF A DOOR HAS IN IT
A SUGGESTION TO THE INQUIRING MIND.

In our mutual relations Coues was always a valued friend and adviser, and his "Key to North American Birds" was framed on admirable lines, later adopted by Jordan and Gilbert in a similar work on fishes.[2] Toward the end of his life he suddenly developed an incongruous interest in theosophy, afterward abandoned as abruptly as it had been adopted. Having read my satirical paper on "The Spontaneous Activity of Shadows," [3] a burlesque of the theosophical writings of D'Assier and others, he one day referred to it with unqualified approval. When I expressed a little surprise, he defined his own position laconically: "Not a damned theos!"

His good advice

In my early work in Ichthyology, Gill (who was, as I have said, endlessly kind) often suggested that we publish together as "Gill and Jordan," he doing the critical part and I largely the routine of investigation and preparation of specimens. Coues strongly advised against that arrangement, citing

[1] "The Humming-bird of the California Waterfalls."
[2] "A Synopsis of the Fishes of North America," 1882.
[3] See Chapter XXIII, page 600.

some of his experiences in anatomical work on birds in joint authorship with Gill, whose part was never ready. Said he: "I wouldn't do another stroke of work with Gill to save his immortal soul!" He furthermore suggested that I take my best student as associate. On this excellent advice I acted, and for a good many years "Jordan and Gilbert" worked together on about two hundred different papers. Of our collaboration I shall frequently speak in later pages.

Jordan and Gilbert

Dall and others

Besides Goode, Gill, and Coues, I met almost daily two other naturalists of the Smithsonian staff, Dr. William H. Dall and Robert Ridgway. Dall, then and now the chief authority at Washington on mollusks, and a man of agreeable personality, had lately returned from explorations in Alaska. As his field is widely separated from mine, our points of contact are not frequent. But our friendly acquaintance was pleasantly renewed when Eric developed a great interest in Conchology. In this matter both Dr. Dall and his associate, Dr. Paul Bartsch, have been exceedingly kind and helpful to the boy. Ridgway, a young bird enthusiast, had been lately brought by Baird from Illinois. Of retiring nature, endless patience, and deep insight, he has devoted a whole life to his chosen study, becoming now perhaps the first ornithologist of his time.

To the group I found on my arrival in 1877 was soon added Rathbun, the details of whose career I have already given. Another able and industrious investigator with whom I was early brought into close association — if not exactly at the same time

— was Dr. Tarleton H. Bean, who had come from Pennsylvania as Goode's colleague in research. Papers by Goode and Bean ran in lines parallel with those of Jordan and Gilbert.

Edward Drinker Cope

A leading scientist whose acquaintance also I made in Washington at this period was Professor Edward D. Cope of Philadelphia, a man of keen insight and great versatility, noted alike as a student of fishes and an untiring collector of fossils. But along with his incisive and flashlight mind he was frequently hasty as to details, and his general conduct was governed by caprice rather than by sustained purpose. Toward me he was always considerate and helpful. When Gilbert and I began our joint work in the Christmas holidays of 1877–78, he invited us to his home and offered every facility in the way of books and advice, except that he naturally did not show the great collection of fish skeletons he had lately purchased from Josef Hyrtl, the noted anatomist of Vienna, of which he subsequently made excellent use. For on it he founded his classification of the orders of fishes, an arrangement which for the most part stands, especially as supplemented and interpreted by Gill.

Fishes of Ohio again

Resuming work at the Smithsonian the following Christmas, I was assigned a bedroom high up in the main tower, occupied off and on by me during two or three succeeding years. I had then been employed by Dr. John S. Newberry, professor in Columbia and state geologist of Ohio, to prepare an elaborate volume on the fishes of Ohio, expanding and supplementing the Klippart report of 1877. As artist I took with me one of my students, Ernest

R. Copeland, Herbert's younger brother, since a surgeon in Milwaukee. But his neat and accurate pencil drawings (those of two species of Black Bass excepted) were never published, probably because of the invention of halftones from illustrations in ink.

Joseph Henry

An interesting feature of our life in the Institution at this period was an occasional meeting with the venerable secretary, Joseph Henry, the physicist, one of the noblest figures in American science.

NOTE

Portraits of Baird, Goode, Gill, Cope, and others of my early scientific associates (among them Günther, Poey, Vaillant, Evermann, and Eigenmann) will be found in "Guide to the Study of Fishes," Volume I.

BOOK TWO

1879–1891

CHAPTER EIGHT

I

THE academic year of 1878–79 proved to be my last at Butler. My experiences there were pleasant on the whole, my relations with my colleagues were always agreeable, and small though the institution was, I had an unusual number of excellent students, several of whom had followed me from the Indianapolis High School. But soon the institution was torn into two factions. One wished to make the college purely a feeder to the Christian Church, the other to forward its growing relations with modern scholarship and also to meet the local demands of the city of Indianapolis.

Dissension at Butler

The first group took up the complaint of many of the rural clergy, who felt hurt by the selection of professors not of their faith, — whose salaries, moreover, were generally greater than their own, — although both the founder, Ovid Butler, who controlled the majority of the corporation stock, and Dr. A. C. Jameson, the broad-minded president of the board of trustees, were strongly opposed to the sectarian movement. Butler and Jameson refused to interfere, however, and the majority of the trustees voted to vacate the three chairs held by individuals not belonging to the Christian Church. Unfortunately the president, Dr. Otis A. Burgess, a man of considerable ability, finally joined their forces — to the great injury of his standing in the city.

The trustees' decision created a storm, for the teachers concerned were much beloved, especially in

Indianapolis, where Catherine Merrill, professor of English, had been for years an inspiration to all, young or old, who were interested in literature.[1] Scarcely less appreciated was my friend, Melville B. Anderson, who had held the chair of Modern Languages and who now went to Knox College. The third of these beloved heretics was Charles E. Hollenbeck, the librarian. And as Butler was largely dependent upon the city patronage, the attempt to revive denominational intolerance greatly harmed the institution.

A dangerous move

During the weeks of dissension before my departure, I took strong ground against the proposed changes, severely criticizing the president for yielding to pressure of which, in my judgment, he really disapproved. Meanwhile, at Dr. Jameson's request, I recommended Rathbun as my successor. My allies on the board voted for him, but the outside majority elected Dr. Oliver P. Hay, a young man who had written articles on science for church papers, and who, it was thought, would be less pronouncedly an evolutionist than either Rathbun or myself. Hay, finding material for the study of fishes already at hand in the collections I left at the college, proceeded to extend my operations in the Alabama Basin by a survey of the fauna of the state of Mississippi. He has since become a high authority on fossil vertebrates, and his views on Darwinism were quite as radical as mine! The other vacancies were duly filled with members of the Church, theologically quite safe. Later, under the presidency of Dr. Scot Butler, son of the founder,

Back into line

[1] Miss Merrill was soon afterward reappointed, holding the chair of English until her voluntary retirement in 1883.

the name of the institution was changed to Butler College, and with wise management resumed its former progressive attitude. A healthy school of higher learning will exist for its own sake, not to promote some particular religious organization.

European trips

On leaving Irvington — in June, 1879 — I went almost immediately to Europe with a group of students.[1] This was the first of four similar trips, characterized largely by modest living and much tramping through picturesque regions, especially in the high Alps. Of them I shall deal in a separate chapter. With added years and new reasons for travel, I went about in different fashion, as will also later appear.

2

A sudden transfer

My position at Butler I resigned on short notice, having been unexpectedly offered the professorship of Natural History (which then meant Zoölogy, Geology, Botany, and Physiology) in Indiana University. I had gone down to Bloomington to serve as judge in an oratorical contest, a kind of exercise on which great stress was laid in those days, especially in the Middle West, where successful college orators passed into the state legislature and ultimately to Congress.[2] With me went Brayton, then a candidate for the already announced vacancy in Natural

[1] Among other members of these student parties in Europe, I should mention Cornelia M. Clapp, Henrietta E. Hooker, Abby L. Sweetser, teachers in Mount Holyoke Seminary; Ida M. Bunker, Fannie B. Maxwell; James L. Mitchell and Samuel E. Smith, students; and Julia Hughes, afterward Mrs. Gilbert.

[2] Among those competing on the occasion to which I refer were several typical Western orators, two of whom have since represented Indiana at Washington. But the prize went to Miss Jennie Campbell, a thoughtful young woman, afterward wife of the well-known astronomer, Dr. Francis P. Leavenworth of the University of Minnesota.

History. Presumably, however, we made a modest impression upon our arrival in town, for the official committee who came to meet me returned to the college reporting that "the Professor was not on the train. No one got off but two drummers who went straight to the hotel."

The board of trustees being then in session, I went before them by request, to set forth in all good faith my friend's qualifications for the vacant chair. To my surprise I was later informed that I myself had been unanimously elected to the position. In Judge Rhodes of Indianapolis, one of the trustees, who became a good friend and remained so until his death, I had from the first a strong backer. I thus became the successor of the veteran geologist, Dr. Richard Owen; and Brayton, I may add, generously approved my decision to accept the appointment.

Successor to Richard Owen

Indiana University

Indiana University had been founded in 1821 as Indiana Seminary. In 1838, however, it became Indiana University, definitely recognized by the authorities of the state as the head of its public school system. As endowment they set aside the township of Perry, Monroe County, and then sold it practically all at a pitifully low price (about a dollar an acre) to settlers, reserving only about ten acres, adjoining the village of Bloomington, as a campus.

During its half-century of existence between 1838 and 1879 the university had passed through many vicissitudes. In the first place, Bloomington, healthy though it is, being in an elevated district free from malaria, the old curse of Indiana river bottoms, lies

on relatively poor land just south of the line of glacial drift which enriches the soil of the northern three fifths of the state. And while the college had from the beginning some eminent teachers, its presidents, chosen from the clergy of different religious denominations, were as a rule neither scholarly nor progressive. One of them (Dr. Dailey) is said to have openly proclaimed that "the people want to be humbugged; it's our duty to give them what they want." Moreover, notwithstanding its clerical heads, the institution was wholly secular, a fact exploited to give color to the old damning charge of "godlessness." Several sectarian colleges in the state had thus more than once combined to try to shut off public appropriations.

Humbug or godlessness

In spite of many embarrassments, however, Indiana University had maintained an honorable record, educating many teachers, many politicians, and a few statesmen. It was able to point with pride to John W. Foster, Secretary of State, and to Dr. William A. Martin, president of the University of Peking, as well as to numerous governors, congressmen, clergymen, and honored men of business. And in Indiana, as all over the Middle West, the state institution ultimately triumphed, acquiring more students, more resources, and more influence than all the denominational colleges put together.

Yet its hold on the people was for a long time precarious, so that students of collegiate rank rarely exceeded 150 in number; and to secure even so many it was deemed necessary to maintain a special preparatory department. Indeed, in those days, the mixing of youth of high school age with their university elders — a process by which the

two sets were subjected to the same discipline, in general adapted to the necessities of neither — was one of the burdens carried by higher education almost everywhere. Another and still heavier load was the fixed course of study, based originally upon the requirements of the English college, diluted but never adapted to the needs of pioneers.

Grand Old Men of Indiana

Nevertheless, notwithstanding the handicaps of poverty, antiquated methods, and lack of popular appreciation, Indiana University, as I have implied, did some really excellent work, and among its professors in the '70's were four, grown old in service, who were justly held in high respect by all capable of recognizing a good man. These were Daniel Kirkwood, Theophilus A. Wylie, Elisha Ballantine, and Richard Owen.

Kirkwood was a mathematical astronomer of learning and penetration, a man of noble personal character also, as simple-hearted as a child, and possessed of the most perfect courtesy. Dr. Richard A. Proctor, a distinguished English astronomer, in a public address at Bloomington spoke of Kirkwood as "the Kepler of America." It seemed to me a pity that one of the most erudite of mathematical astronomers in our country should spend his life teaching elementary geometry and algebra. Subsequently, when I became head of the institution, I arranged that Dr. Kirkwood should have a competent assistant and henceforth teach only astronomy. Wylie, son of Dr. Andrew Wylie, the first president, and for nearly fifty years professor of Physics, was a scholarly gentleman of the old school, though scarcely in line with the progress of an elusive science. Ballantine, the learned professor of Greek

for about half a century, was a sweet-spirited and devoted gentleman.

Owen, oldest of the four, was a son of the noted Robert Owen from Lanark, Scotland, who founded with William Maclure of Philadelphia, a geologist of note, the communistic experiment at New Harmony on the Wabash River below Vincennes — an attempt remarkable for its success in bringing together forceful and original minds, as well as for its total failure to solve the economic problems of society. Richard Owen, like his distinguished brother, David Dale, was a geologist with broad scholarship and large sympathies, and a man of courtly manners. Once I gave a lecture in the old hall at New Harmony, with Dr. Owen in the chair. He was then very old and heard not a word I said, but by watching the faces of the audience he showed every appropriate shade of feeling as I proceeded with my talk.

3

The importance of the New Harmony enterprise in the intellectual development of Indiana seems to me sufficient to warrant a digression at this point. A century and more ago, the feeling was general that the age of competition was past and the world about to enter on a new social and industrial period. Franklin asserted that if everybody would work three hours a day on something useful, poverty would be banished and all might spend the afternoon of each day and the whole afternoon of life amid the consolations of philosophy, the charms of literature, or the delights of social intercourse. In

Abolition of competition

the words of Robert Dale Owen, Richard's elder brother, men

> looked forward to the time when riches, because of their superfluity, would cease to be the end and aim of man's thoughts, plottings, and lifelong strivings; when the mere possession of wealth would no longer confer distinction, — any more than does the possession of water, — than which there is no property of greater worth.

Maclure refused to invest money in Philadelphia because, as he said,

> land in cities can no longer rise in value. The community system must prevail, and in the course of a few years Philadelphia must be deserted, and those who live long enough may come back here and see the foxes looking out of the windows.

Robert Owen and Maclure

It was therefore natural that Robert Owen,[1] fresh from a varied career of reforms in Scotland, and full of projects for the development of the New World, found in Maclure an active co-worker. Indeed, most of the learned men of New Harmony were drawn there by Maclure. His special plan was to conduct a School of Industry in which all should be taught the arts of "the Conquest of Nature." Farmers, for instance, should not be mere tillers of the soil, but should be trained to make the earth do its best. And at New Harmony he published a magazine called *The Disseminator of Useful Knowledge, Containing Hints to the Youth of the United States from the School of Industry.* The motto of this comprehensive sheet rightly proclaimed that "Ignorance is the Frightful Cause of Human Misery."

[1] "Robert Owen, the shrewd, gullible, high-minded, wrong-headed, illustrious, preposterous father of Socialism and Coöperation." LYTTON STRACHEY

Say

In the pages of *The Disseminator* appeared the name of Thomas Say, another member of the Community, who wrote concerning the shells, insects, and birds of the Wabash. Say had already won fame as an explorer on Long's expedition to the Rocky Mountains, and was among those who came down the Ohio River from Pittsburgh in the famous "Boatload of Knowledge." He was a close and conscientious observer, and when he died it was asserted that "he had done more to make known the Zoölogy of this country than any other man." One of his friends, with a touch of Say's own modesty, said: "He will ever be remembered as one who did honor to his country and enlarged the boundaries of human knowledge."

Le Sueur

Another of our most attractive pioneer naturalists, the French artist, Charles A. Le Sueur, also arrived at New Harmony with the "Boatload of Knowledge." A friend of Cuvier, with an established reputation as naturalist and artist, he had been around the world on Péron's celebrated voyage. In the drawing and painting of animals he showed rare skill, and his woodcuts of the fishes of the Great Lakes are among the most lifelike ever published. It was he who painted the drop curtain of the Community Hall; this represented Niagara Falls with "the other marvel of the New World," the rattlesnake, coiled beside it! Richard Owen was a favorite with Le Sueur, and once told me how he used to wade barefooted in the bayous of Posey County to gather mussel shells for the gifted naturalist.

The Owen Brothers

Robert Dale Owen was long and favorably known as a charming writer, one of the circle of essayists who early gave to *The Atlantic Monthly* its high

literary character. As a member of the Indiana legislature he led in shaping the public school system of the state. David Dale, the second son, and Richard, the youngest of this remarkable family, were intimately associated throughout their lives. David, afterward United States Geologist, was especially interested in fossils and minerals. He classified the great collection left by Maclure, which, with his own extensive accumulations, afterward formed the Owen Museum (of 85,000 specimens) of the University of Indiana, one of the largest fossil displays in America up to its partial destruction by fire in 1883.

Neef The New Harmony schoolmaster, Dr. Joseph Neef, was a blunt, plain-spoken, honest man, a great favorite with his pupils. An Alsatian by birth, he had formerly been priest, soldier, and at the same time a mathematician of high ability — for a while, also, associate of Pestalozzi in his famous school at Yverdon, Switzerland. The latter once commended him as an earnest, manly worker who "did not disdain to occupy himself with the elements of science." Maclure met Neef in Paris and brought him over to America. "It is my highest ambition," said Neef, "to be a country school teacher amidst a hardy, vigorous community." His two daughters both married Owens, the one David Dale, the other, Richard.

Troost Many distinguished scientific visitors came to New Harmony, among them the Dutch scientist, Dr. Gerard Troost, who remained for some time, becoming later state geologist of Tennessee; and Sir Charles Lyell, greatest of all geologists, was once a guest of the Owens. The eccentric Rafinesque

also passed that way "on foot, with a bundle of plants under which a peddler might groan."

The New Harmony movement, based on democratic principles, soon failed — some said because Owen refused to deed over all the property; but the common opinion is that there were too many managers and too few workers. Community of ownership goes only with community of spirit. No permanent association is possible where drones and workers have equal access to the honey cells. Several other parallel experiments have taught the same lesson — Brook Farm at West Roxbury, Bellamy in British Columbia, and the still more recent Kaweah Community on the flanks of the Sierra in California.

Too many drones

The New Harmony property had been bought by Robert Owen from Johann Rapp, head of a celibate German sect called "the Economists," a group which later formed a large settlement in central Pennsylvania named "Economy." Each of Rapp's experiments was a financial success because a single will dominated. They were, indeed, theocracies, with a head ruling autocratically by supposedly divine right. According to Rapp, an angel appeared at his bedside every morning to direct what each member should do that day. The University of Indiana still preserves the New Harmony "Angel Stone" on which the celestial emissary is said to have stood. This is a block of sandstone marked with the very plain print of two bare feet, woman's size, the great toe being made to stand out to prove that it had never been cramped by a shoe! In addition to this evidence of Rapp's pious ingenuity, Owen found under the fields various tunnels from which

Rapp and the Angel Stone

the prophet used suddenly to appear and "supernaturally" incite his peasant followers to renewed activity.

The few living members of the sect at Economy have now, according to the press, inherited all the accumulations in Pennsylvania.

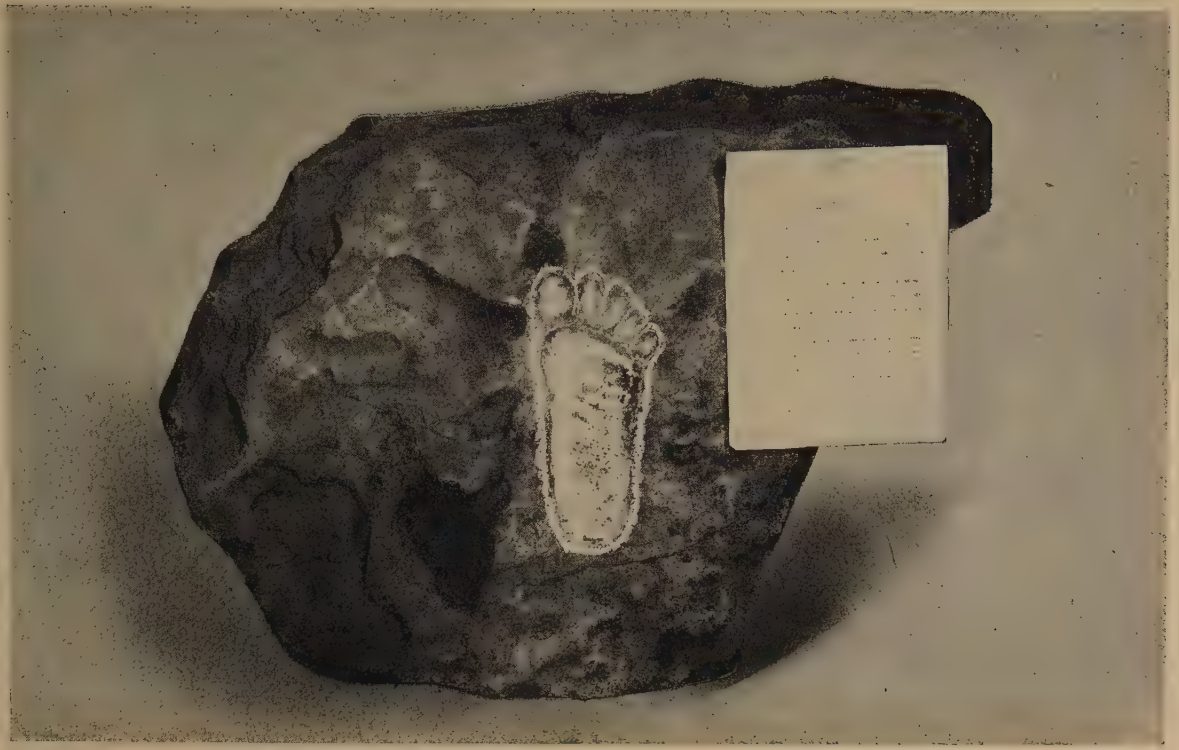
4

New neighbors

The town of Bloomington had been originally settled mainly from the South: the leading citizens were largely of Scotch descent, often Presbyterian in faith, Republican in politics, and fairly rigid in all their beliefs. As Presbyterians they were again divided into three groups: Cumberland Presbyterians (of which, however, there were very few), who would not vote or accept citizenship in a country where God was not recognized in the Constitution; United Presbyterians, who excluded musical instruments from the church; and Presbyterians proper, who conformed more fully to current custom.

The Bates School of Philosophy

Among the more interesting citizens was one unique in his way, Henry S. Bates, the shoemaker. Soon after my arrival I gave a lecture on Thoreau, at the close of which Bates and James Karsell, the grocer, remained to talk with me. Both, I found, were well informed as to Thoreau's life and writings. Bates, seated at his bench, used to discuss with students and professors the problems of literature and life. The fact that though without much formal education he did a good deal of thinking and was withal a man of generous sympathies and friendly interest, brought like-minded men to sit at his feet. So the shoe shop came to be known as



THE "ANGEL STONE," NEW HARMONY

Outline whitened by chalk

the "Bates School of Philosophy," a well-deserved name which persisted for years. Most of the younger professors of those days — as well as many of the earnest students — became informal members of the cobbler's class. In 1893 Mr. Bates was made university registrar, in which capacity he was especially useful as adviser to young people.

Of other good and kindly residents I may instance notably Dr. James D. Maxwell and the Reverend S. R. Lyons, both members of the board of trustees; William P. Rogers, attorney, afterward professor of Law and, still later, dean of the Cincinnati Law School; and Walter E. Woodburn, banker.

The town

When we arrived in Bloomington, only one street was covered with gravel, the others, almost impassable after rain, being composed of bright red clay and crossed by pedestrians on stepping stones made of rough cubes of limestone, flat slabs of which also served as sidewalks. Our house was a modest frame affair on Morton Street, at the north end of town. Within a few rods of it now stands a monument marking the actual center of population of the United States as determined in 1917. With each succeeding census new pillars will, of course, be required to indicate the gradual westward trend. During my seventeen years' residence in the state the point moved from near Cincinnati to Greensburg, Indiana. It is now (1920) at Whitehall in Owen County.

The central square of town was marked by the courthouse, then a shabby building surrounded on Saturdays by the saddle horses and teams of the neighboring farmers — all Monroe County, after

the fashion of the rural South, aiming to spend Saturday afternoon at the county seat. Thus in summer the entire space about the courthouse fence would be bordered with rinds of the watermelon, a luscious fruit much enjoyed by the whites and still more by the colored population.

Only one at a time

Athwart the main street runs a brook now entirely covered, but spanned in very early days by a single log necessarily crossed by every one bound for the college. That primitive bridge was accordingly once the scene of an incident long remembered in local history, harking back to very early days. President Wylie, it seems, was much disliked by his faculty of two, Baynard R. Hall of the chair of Classics, and Harney, professor of Mathematics; for a while, at least, the president and Harney were not on speaking terms. One Sunday morning the two met on the log. According to local etiquette Harney had the right of way, but Wylie elbowed him into the stream.

An unpopular book

A racy account of this occurrence may be found in a book by Hall, who after about seven years of service returned to the East and there published (1843) a volume entitled "Life in the New Purchase" — New Purchase being the name by which Monroe County, then lately bought from the Indians, was commonly known. In it the author gives a vivid account of his Bloomington experiences, not on the whole thought flattering by the townspeople, for they destroyed every copy in the university library and everywhere else within reach. Yet the writer speaks appreciatively of the energy and independence of certain individuals, particularly of one most honest and capable "Dr. Sylvan," a mem-

ber of the board of trustees, identified as Dr. David H. Maxwell, father of Dr. James D. Maxwell.

Commenting on the Doctor's rough and careless dress, Hall calls it

> a leaden casket with a rare jewel within. With a little fixing this gentleman would easily have adorned and delighted the best company in the best places. He was a brave soldier, an able statesman, and a skillful physician; and if not learned, he was extensively and profoundly read in his favorite studies, medicine and politics. His person, even disfigured by his dress, was uncommonly fine, his countenance prepossessing, and his conversation easy, pleasant, and instructive. . . . He would have graced the halls at Washington.

Early-day students

The professor also writes fairly of the students of those days:

> The speeches were equal to the best in our schools. Generally the young men are superior to the young gentlemen of old settlements in both scholarship and elocution.

For this he gives several reasons, which I here condense:

> 1. They come to learning as a novelty. Nothing exceeds their interest and curiosity. It is long before the novelty ceases, and then the habit of hard studying takes its place.
> 2. They regard learning as the lever to elevate them, to help the New World to cope with the Old.
> 3. They have more energy than the young gentlemen.
> 4. They have few temptations to idleness and dissipation.
> 5. The tuition fee of ten dollars — the value of ten acres of land — is too hard to obtain to be squandered lightly.
> 6. They are inquisitive like Yankees, and gain knowledge by torturing professors.
> 7. They come into more immediate contact with professors than do Eastern students.

"Seven more reasons," no doubt good, he refrains from giving in detail, but the chief one is that they

will work at anything to pay their way. He also cites admiringly the case of a lad who rewrote an essay thirty-six times before presenting it.[1]

"The Hoosier Schoolmaster"

Somewhat later appeared a well-known book of similar character, "The Hoosier Schoolmaster," by Edward Eggleston. This described life in Switzerland County on the Ohio River below Cincinnati, near the Swiss colony of Vevay. Eggleston frankly gave (as Hall did not in any case) the real names of the people he described. James H. Means, son of Bud Means, one of his leading characters, is a well-known mining engineer in London, a graduate both of Indiana and of Stanford.

But I must not leave my readers with the impression that Bloomington is still a pioneer village. It has now become a well-kept city with asphalt streets, a new stone courthouse, and a general air of prosperity.

5

About Bloomington are many places and objects of interest connected with the geological formation. There the surface rocks are mainly of the Burlington Subcarboniferous, represented by thick-bedded, white oölitic limestone, which through its value for building purposes has enriched the town.

Geodes

Underlying that formation are the Keokuk shales, remarkable for their wealth of geodes, concretions of quartz usually about six inches through but varying in size from that of a cherry to that of a big pumpkin; these are found in all the local streams which have cut down through the limestone. A

[1] I am informed that Professor Hall's book is about to be reprinted by an Eastern house, as a contribution to our knowledge of American pioneer life.

geode occupies the space left vacant by the dissolution of some organic object — a sponge perhaps, or a shell, or the head of a crinoid. If a shell or crinoid, the original shape is maintained; but most geodes, probably having replaced sponges, are without definite form. Broken open, they are found to be hollow. Those that have a minute hole through the rough crust are lined inside with chalcedony, — that is, clouded quartz arranged in layers, — a peculiar structure caused by relatively rapid evaporation. But when the crust is solid, the siliceous liquid has evaporated very slowly, leaving the inside filled with more or less perfect crystals, usually of white quartz, sometimes of amethyst — which is violet quartz — sometimes mixed with crystals of zinc blende, often of calcspar, and occasionally of other minerals. Very rarely, a geode still retains some of the siliceous water from the evaporation of which it has been formed.

The center of geode deposit is along the Mississippi River about Keokuk, Iowa. At Niota, Illinois, across from Keokuk, I once found specimens filled with bitumen, but otherwise perfect.

Monroe County is rich in fossils, also, and has occasional caves worn by water in the limestone. It possesses one special botanical charm, Arbutus Hill, a barren, wooded slope covered in spring with flowers of the fragrant Trailing Arbutus — *Epigæa repens* — and, as far as I know, the westernmost point of its distribution. This was the choicest discovery of our colleague, Herman B. Boisen, professor of German, my own closest associate in the old university faculty. Boisen was a warm-hearted, generous, enthusiastic Germanized Dane from Hol-

Trailing Arbutus

Boisen

stein. Although occasionally erratic, and always resistant to red tape, he was one of the real men of the faculty, remarkably successful as a teacher and sincerely loved by his students. After some obscure difficulty with the president, he resigned in the early '80's, going to the Lawrenceville School, New Jersey, where he soon after died.

Brown County

Brown County, our neighbor on the east, merits a word. The most hilly and backward part of the state, without a railroad in my time, its highest elevation, Weedy Patch, approaches the dignity of a mountain. To this and to the sister summit, Bear Wallow, my students and I made frequent pilgrimages. Near the barren top of Weedy Patch stood a poverty-stricken cabin, the owner of which explained that somebody had to live there and so he did!

CHAPTER NINE

I

RETURNING in September from a trip to Europe, I took up my new work in the University with much enthusiasm. Naturally I found there more and better equipment and a more generous atmosphere than at Butler, although the larger institution was quite as heavily burdened by educational tradition. In addition to several excellent students who had followed me from Irvington, a number of others showed marked promise. I had hardly made a beginning, however, when a most unforeseen call to government service gave me a rare opportunity for field work in Zoölogy.

Government service on Pacific Coast

The United States Census Bureau, under the efficient administration of General Francis A. Walker, had planned for 1880 a report which in fullness and accuracy should far surpass any work of the kind before attempted. Through coöperation with Baird and Goode, the investigation of marine industries was turned over to the Fish Commission, and I was asked to take charge of the work on the Pacific Coast, while Dr. Bean went to Alaska on a similar mission, and Silas Stearns, a delightful young student of nature, canvassed the Gulf of Mexico. Making an adjustment whereby my collegiate work was placed temporarily in Dudley's hands, I was enabled to accept the alluring assignment, upon which I entered in December, 1879. Gilbert, then one of my graduate students, accompanied me as

secretary and assistant, in both of which capacities he proved most efficient.

Details of investigation

Our special duty was to visit or communicate with every post office within five miles of the coast in California, Oregon, and Washington, to list the various species of fishes and other marine animals inhabiting adjacent waters, and to report fully on their habits, food, and value; also to describe in detail the past, present, and probable future of all industries related to the sea. This investigation, involving nearly a year of travel and research, was one of the most important events in my scientific career.

Toward the end of December we left Chicago for California, settling down in the train for the seven days it then took to reach San Francisco. Through Wyoming we saw great herds of antelope; at Ogden we had a chance to climb a snowy peak of the Wasatch range, which overtops the town and gives a fine view of the valley and the Great Salt Lake, then covered with ice.

Los Angeles

Arrived at San Francisco, we decided to begin with the southern end of the state, and accordingly went at once by rail to Los Angeles, whence we planned to travel by steamer to San Diego. In Los Angeles I was much impressed by seeing the boys playing ball with oranges at Christmas. But it was still a mere village, — mostly Mexican, its only hotel being the Pico House, a *tienda* on the old Plaza, — and the country round about was practically a desert of cactus and sagebrush. The steamer for San Diego started, then as at present, from the port of San Pedro. Having reached the little town a few hours ahead of time, we climbed the inviting

Palos Verdes, the hill of "green trees," above the two villages of San Pedro and Wilmington, both now incorporated in the city of Los Angeles. But as frequently happens in the clear air of the West, Palos Verdes proved to be higher than it looked, commanding a most beautiful prospect. So we missed the boat and had to go by night and day stage from Santa Ana to San Diego, a distance of eighty miles. *The Palos Verdes*

Toward midnight we changed horses at picturesque San Juan Capistrano, the first Mission I ever saw and the one which six years later furnished the architectural motive of Stanford University. Directly in front stands an old pepper tree, dating, at least according to our veracious stage driver, from the year One. For breakfast we stopped by the side of the Mission San Luis Rey, perhaps the most beautiful of the whole series, then neglected but since partly restored, though not wholly to its advantage. San Diego was reached the following afternoon. There in the local "Chinatown," to which we at once made our way, I picked up a small specimen of a true Sole — *Symphurus atricauda* — the first of its type to be recorded from the American side of the Pacific. That discovery we regarded as a good omen, as it showed the field to be by no means exhausted. *San Diego*

San Diego was then a small, remote city which on the strength of its climate (the most equable in the United States) had been overtaken by an unfortunate boom. This had dotted the neighboring hills with city lots and left the town financially stranded.

Our office stood at the foot of the wharf, in an empty saloon with the significant legends "Last

The "Last Chance"

Chance" on the side toward town, and "First Chance" next the wharf. One day we had a call from a man who remarked that he starved out in that place, and had dropped in to see how business was going with us! Next arrived a fat squaw calling herself Ramona and insisting "Me want whisky." It took some minutes to persuade her that the "Last Chance" had gone dry. Finally, however, we succeeded in leading her out of the shop, her little son pushing vigorously from behind.

At that time, throughout California, there was a good deal of complaint about "Chinese cheap labor." In San Diego, at least, this was mainly talk, the people meanwhile allowing the Chinese fishermen to depopulate the bay by the use of fine, small nets trapping everything, little and big — all of which they dried, salted, and sent to China. That disastrous practice I attempted to stop "in the name of the law." The men accordingly came to know me as "Law" or "Mr. Law," and they seemed to think that the fishery statutes, not executed until after my arrival, were of my own making. On our return later in the year they stopped work entirely, evidently fearing to take any chances with "Law." To secure specimens, therefore, I had to hire men to fish for me.

"Mr. Law"

In the town we found a thriving Natural History Society, of which Daniel Cleveland was the leading spirit. One of its most active members was Rosa Smith, who later married Eigenmann, my assistant and successor in Zoölogy at Indiana University. Miss Smith accompanied us on various scientific excursions, going, in fact, as far as Portland. She discovered and described a few species

RUINED MISSION OF SAN JUAN CAPISTRANO

from San Diego; afterward she associated herself with her husband's work on the fishes of that region and, later, on those of Brazil.

From San Diego we moved up to Wilmington, which adjoins San Pedro, and there daily overhauled the boats of the Portuguese fishermen who work between the latter town and Santa Catalina Island. Wilmington proved an excellent place for our purposes, though it was then a bit crude socially.

Big game fishing around Santa Catalina

Santa Catalina itself, with its settlement of Avalon, soon afterward became the most noted center of big-game fishing in the world. About it swarm the great Leaping Tuna or Tunny — *Thunnus thynnus* — which reaches a weight of six hundred pounds or more, and takes the hook mightily; the Albacore — *Germo alalonga* — of about twenty pounds and with long, ribbon-like pectoral fins; the Swordfish — *Xiphias gladius* — identical with the giant Swordfish of the Atlantic; the Marlinspike-fish — *Tetrapturus mitsukurii* — a smaller edition of the Swordfish, but still mighty; the Yellow-fin Tuna — *Germo macropterus* — a common fish of Japan; the huge Bass or "Jewfish" — *Stereolepis gigas;* and the swift Yellowtail or Amber-fish — *Seriola dorsalis.* The famous Tuna is coarse and oily, but the Swordfish is highly valued as food. The Yellowtail is also excellent, and the Albacore has delicate white flesh of a rich flavor, so that lately it has been extensively canned (tinned) under the name of Tuna, unfortunate because incorrect.

The Barracuda — *Sphyræna argentea* — a game fish of smaller size but toothsome flavor, should also be counted among the treasures of Avalon.

On the whitewashed walls of our little laboratory in Wilmington, Gilbert and I by turns contributed to a string of incongruous verses, written in moments of desperation, during the prevalence of the rainy season, and here reproduced for old times' sake.

The Rhyme of the Palos Verdes

When the U. S. Fish Commission
Feels too lazy to go fishing,
And the star-eyed Señoritas in
siesta slumber soft,
Let us leave Saint Peter's valley,
With its "benzine" and alkali,
And its dirty "customhouses," for the
mountain side aloft.

Let us to the Palos Verdes
Where the vaquero doth herd his
By the cactus-sorely-prickled
on the sagebrush-feeding flocks,
To the greenest of green mountains,
Which without nor brooks nor fountains
Keeps its slopes as sleek, as glossy
as a mermaid's curling locks.

Past the burrows which the rabbit
Digs as if by force of habit
'Neath the tangled roots of cactus, where
a plow can never reach;
And the little owls (the "Greasers"
Call these solemn birds "Professors")
On the rabbit burrows dreaming,
vanish with a sudden screech.

Though the air appears so quiet
The mirage doth wildly riot
On the highlands and the islands,
building pinnacles like mad.
Far beyond, across the islands,
Lie the snowy heights where Silence,
All unmoved by human uproars,
holds his court on Soledad.

Down the slope we climb, where cactus
With its vicious thorns hath scratched us,
And the rolling gourd doth flourish
till against a stone it knocks.

From the last bluff, steep and stony,
To the beach where Abalone,
With his slimy fingers delving, crawls
beneath the shelving rocks.

There the mad Pacific plunges
On the gentle-tempered sponges,
And the Octopus doth lunge his
venom at each passing shark.
There the very long-nosed Garfish,
And the very short-nosed "Star" fish,
And full many another "quar" fish
getting in his little work.

In the kelp the junks, strange vessels,
In whose sails and rigging nestles,
Drying for the China market,
Eel, and Rockfish red as blood,
While the whistle of the steamer
Wakens every startled dreamer,
As it plows through muddy water, stops
at last in watery mud.

Riding on his vicious "bronco,"
Coming in from the Barranca,
With his red serape glowing through
the Eucalyptus trees,
Comes the swarthy Mexicano,
Frowning like a Castillano,
With his long mustachio waving like
a pennon in the breeze.

Soon the morning call to business
Breaks our fine poetic dizziness,
And the sun once more is creeping
o'er the Sepulveda hills.
And, dear friends, we promise never,
Never, that is, hardly ever,
To repeat this gross addition to your
necessary ills.

2

Santa Barbara

In February we proceeded northward to Santa Barbara, charmingly situated and with a suggestion of the French Riviera. As a collecting ground it proved one of the best, the channel and the offshore islands being rich in fish life. One day we climbed the Sierra Santa Ynez, which rises behind the town and gives a superb view. This was one of the roughest ascents I ever made, because of the ragged shrubbery which envelops its slopes. That evening on our return, hot and dusty, we were delighted to find that the men employed by us, John Weinmiller from Maine and Andrea Larco, a Genovese, had brought in a new species, the most brilliant fish on the coast, light pink in color, crossed by broad bands of deep crimson, and known as the "Spanish Flag." This, our choicest discovery, we named *Sebastichthys rubrivinctus*.

Sudis

An albacore yielded another interesting find, for it had swallowed a full-grown hake — *Merluccius* — in the stomach of which lay a little deep-sea fish — *Sudis ringens* — never seen before or since, though afterward we opened many an albacore and many a hake. One more rarity, and one only, rewarded us in the process — a tiny lantern fish with luminous spots, which had risen from the deeps in a storm (nothing else ever brings it from below) and which we named *Myctophum crenulare*.

In the channel the California Flying Fish — *Cypselurus californicus* — runs in multitudes in early spring, so that we had an opportunity, unique up to that time, to learn exactly how it flies. From a

boat one could see every movement. Since then I have watched the flight of numerous species of *Cypselurus*, large and small, in both the Atlantic and the Pacific, and my later observations confirm our first conclusions, although none of the others have the force or spread of "wing" of *californicus*, the largest known. This flies for distances varying from a few rods to upward of an eighth of a mile, rarely rising more than from four to six feet. All movements below the surface are extremely rapid, but the sole source of motive power in water or out is the impulse given by the powerful tail, which vibrates rapidly and strongly until the whole body has emerged. While this motion continues, however, the pectorals or wings seem to be also in a state of rapid vibration, — a fallacious appearance, as they are simply shaken by the general agitation, the animal having ability only to spread and fold them. The ventrals remain folded until the tail leaves the water and becomes quiet, at which time both pectorals and ventrals are spread, then held at rest. They thus serve, not as actual wings, but rather as parachutes to hold up the body. When the fish drops and touches the surface, tail vibration again begins — with it, also, the apparent movement of the pectorals. Flight is now resumed, to be finished finally for the moment in a big splash.

Flying fishes

Method of flight

In the air Flying Fishes look like large dragon flies. Their progress is very swift, at first in a straight line but later deflected into a curve, and always without relation to the direction of the wind. When a vessel passes through a school, they spring up before it, moving away in all directions like grasshoppers in a meadow. Off Walpole Island in

the South Pacific, I once caught "on the fly" a large individual which proved to be new to science. In the Tropics live some species not exceeding three or four inches in length, with very short pectorals and little ventrals; these fly a few yards only.

Opening Indian mounds

At Santa Barbara we received word from Professor Baird that a certain Mr. Barnard who had an Indian mound on his farm at San Buenaventura (now shortened to Ventura) had requested the Smithsonian to send some one to open it. Being practically on the spot, we were asked by Baird to attend to the matter, and accordingly took it in hand. At the very outset, however, while trying to hire a few Chinese for the necessary work, we hit a snag. For one and all made the same answer, "No workee today; me Happy New Year!" (The Chinese year formerly began in March.) Several Mexicans were finally secured, and one of the implements they dug out was said to be unique among aboriginal relics.

At the time of our visit a little daughter, Miss Maryline, had just arrived in the Barnard home. Twenty-one years later she received from my hands the Bachelor's Degree at Stanford University.

San Luis Obispo

From Santa Barbara we went to San Luis[1] Obispo. At Port Harford (its seaport) we found Northerly species, as Point Conception, midway between there and Santa Barbara, forms the dividing line between two faunas. Here the chilled Japanese Current is deflected into the sea, where it loses itself in a broad and vaguely defined "whirlpool." That great ocean

[1] Pronounced "Loo-eece," and accented on the last syllable; final "s" is always pronounced in Spanish.

river or Asiatic Gulf Stream, the *Kuro-shiwo* or "Black Current," flows northward from the Philippines, warmly drenching the east coast of Japan. It then runs northeastward to the Aleutian Islands, thence across to Sitka, losing its heat on the way and bathing the shores in mist and rain. Next, thoroughly cooled, it bends southward along the Pacific Coast to Point Concepcion, reducing summer temperatures to a much lower point than that of corresponding latitudes in the Atlantic or the western Pacific, and thus bearing Northern forms southward to Monterey and beyond. *The Black Current*

At San Luis Obispo we made the personal acquaintance of Millie-Christine, the "Siamese Twins" of that epoch, two good-looking mulatto girls, tragically bound together for life and death. Relatively well educated, I may fairly say cultivated, they were as distinct mentally as any pair of "identical twins," conversing together and with others in the usual fashion. In San Luis Obispo, also, we attended the performance of a clever magician whom I mainly remember from his discomfiture next day when he carelessly let slip his magic cane through a break in the wharf. Attempting to hire some one to dive for it, he was as helpless as any ordinary mortal. *Millie-Christine*

Later in March we came to Monterey. There, in that former Spanish capital where some of the old-timers were still living, we found much of interest. It also furnished our best collecting ground. In the search for material, we had the energetic help of a Portuguese lad named Manuel Duarte, now a flourishing local fish dealer. Among our many experiences was a day with very low tide, spent far out on the rocks beyond the Point of Pines, *Monterey*

spearing little blennies and sculpins with a sharpened, three-tined fork. Needless to say, the water seemed warmer than it now does to either of us!

The Hagfish

At Monterey we found a species of Hagfish — *Polistotrema stouti* — in considerable abundance. This eel-shaped, slimy creature, plum color and about a foot long, is *persona non grata* with its neighbors. Its habits are bad. Fastening its sucker-like mouth with rasping teeth within the gill opening of a large fish, it gnaws into the body, devouring all the muscular system of its "host" and reducing it to a mere hulk. Many large fishes, flounders and rockfish especially, are taken in this sad plight. When the victim finally dies, the parasite makes its escape; and sometimes when a poor wreck is hauled up in a net, the pirate may be observed thrusting its eyeless head from out the hole, and then plumping incontinently into the water in search of a new boarding house.

Mission San Carlos

In the Monterey region we investigated (among other places) the little Bay of Carmel, not far from which stands the old Mission of "San Carlos Borromeo in Cármelo," overlooking the mouth of the fertile and beautiful valley of the Carmel River. The roof of the picturesque church then falling into ruins — its beams having been made of the perishable Monterey pine — was being restored by the devoted Father Casanova, at the expense of Mrs. Leland Stanford. At that same time also Mrs. Stanford set up on the hill above the spot where, in 1603, Vizcaino landed and celebrated mass under a live oak, a monument to Padre Junípero Serra, founder of most of the California Missions.

SAN CARLOS BORROMEO IN CÁRMELO, 1880

Copy of photograph by Fiske: Turrill Historical Collection. Courtesy of Charles B. Turrill

Carrying the faith

Serra stands out as the conspicuous figure in the pious background of California history. Lured by heavenly visions, he left La Paz on foot early in 1769 in one of Portolá's two official land parties designed to carry the true faith to beautiful New Spain. In front of each division were driven a hundred head of cattle. Having put behind them nearly a thousand miles of barren cactus-laden rock and sand, on July 1 they reached the gentle bay where Serra founded the Mission of San Diego de Alcalá, the first of a long series to "girdle the heathen land." Afterward the Padre made his permanent headquarters at Monterey, the capital of Alta (Upper) California, and he lies buried by the old Mission Church of San Carlos.

Ancient cypresses and Monterey pines

To the north of Carmel Bay projects the picturesque and famous Cypress Point, one of the several headlands of the pine-clad peninsula which culminates in the Point of Pines. Cypress Point bears a grove of ancient but noble Monterey Cypresses — *Cupressus macrocarpa* — many of them so bent and twisted by the northwest trades that they seem to belong to some Inferno of Doré. This particular species, quite unlike any other conifer north of Mexico, is found native only here and on the neighboring Point Lobos [1] which bounds the bay on the south. The Monterey Pine — *Pinus radiata* — much like common Japanese forms but wholly different from any other American species, is also rigidly confined in nature to a small district around Monterey. Both pine and cypress grow readily from seed and are planted widely in California and in southern Australia.

[1] *Lobos*, "wolves," a name applied to the barking brown sea lion — *Zalophus californianus*.

The Seventeen-mile Drive

Cypress Point and the Point of Pines are now both included in the glorious "Seventeen-mile Drive" from the Hotel Del Monte, situated in a superb park of live oak and pine and everywhere known to world travelers. The road winds through a somber pine forest out to the ocean's edge, then along the shore for many miles — the rock-frayed, white-fringed break of blue water against beach or rudely jutting headland on the one hand, and on the other silvery dunes backed by primeval cypresses. Within recent years, also, about forty miles of similarly perfect road have been cut across and up the wooded peninsula, disclosing noble views of both Monterey Bay and the Pacific. Around Pebble Beach just north of Carmel many charming villas are now arising.

Along the whole coast from Carmel to Cayucos in San Luis Obispo County, the wild and pine-covered Santa Lucia range thrusts itself abruptly into the sea. The result is a series of *rincones*[1] of singular beauty, and so rugged that from Point Sur (about midway) to Cayucos, there is no room for a road. Of all these headlands the most beautiful and impressive is Point Lobos, a granite promontory cut by wave action into deep ravines up which the great surf of the rising tide rushes with merciless force, breaking into wondrous mighty cascades of white foam. South of the storm-swept inlets of Alaska nothing finer of its kind appears on any coast. At Lobos, also, the lone, primeval group of gnarled, wind-twisted cypresses, clinging wherever soil remains on top or side, lend their peculiar charm to a spot beautiful indeed without them.

La Punta de los Lobos

[1] Plural of *rincon* — big nose — the Spanish word for headland.

The drive from Lobos to Sur challenges comparison with the famous cornice routes of the French Riviera, although it lacks, of course, the finished beauty of those ancient highways.

A seaside retreat

Thirteen years ago my wife Jessie built a modest seaside cottage at Carmel, almost on the *Camino Real* or trail originally connecting the Mission of San Carlos with the old Presidio or barracks at Monterey. This served as a special retreat for herself and Eric during my various absences on government affairs. Since then we have spent many delightful days in that exquisite spot, and there the boy at the age of nine really began to collect shells. For these reasons I take pleasure in adding a few lines written by me at the time of my first visit to *la Enseñadita de Cármelo* —"the little bay of Carmel."

Carmel Bay

Of all the indentations on the coast of California, the most picturesque and most charming is the little bay of Cármelo, which lies just south of the point of Los Pinos, between this and the rocky cape of Los Lobos, its blue waters sheltered from the northwest trades by the pine-clad peninsula which ends in the reefs of the Point of Pines. No one lives on this bay at present except a farmer or two, a little colony of Chinese fishermen who have a *Pescadero* or fishing camp in the edge of the pines, and a little group of Portuguese (Captain Verísimo) who watch for whales on a rocky ledge near Point Lobos.[1]

When the above was written, I little thought that one day Carmel would shelter its present colony of beauty lovers, and among them my own family!

[1] From a manuscript report to United States Census Bureau, March, 1880.

3

The Occidental Hotel and Major Hooper

Our work on the Coast centered naturally in San Francisco. There, through the courtesy of Louis Sloss, the worthy head of the Alaska Commercial Company, we had a workroom at 320 Sansome Street, our office being meanwhile near by on Montgomery in the old Occidental Hotel. This hostelry, the oldest "first class" one in town, maintained an enviable reputation for hospitality long after it was left in the shade by finer and newer edifices. Major Hooper, the proprietor, had always a keen eye to the comfort of his guests. A vase of flowers, or a plate of fine fruit, or both were at hand whenever they would be appreciated. A guest from Kentucky never failed to find a flat bottle where it would do the most good. Leaving for the Orient by boat or starting north, south, or east by rail, one was sure to have a generous basket handed out at the last moment. With the death of the Major and the subsequent destruction of the house in the fire of 1906, a characteristic feature of early days disappeared.

Stevenson

For a time the most gifted man in San Francisco, one "who did much to give our city its cosmopolitan character," had rooms only a few doors away up Bush, near Donadieu's Bush Street Restaurant. Practically nobody then knew much about Robert Louis Stevenson, and I must have passed him indifferently almost every day. He was living (as we now know) in the very depths of depression, financial as well as physical. But I would give a good deal to have met him there, for

he passed away long before my own visit to Vailima — to reach which (as he wrote to J. M. Barrie) "one must take the boat at San Francisco, then my place is the second on the left."

Muir

We did, however, make the acquaintance of John Muir, a young Scot, a graduate of Wisconsin, who had lived for some time in Indianapolis where he had been an intimate friend of our friend, Catherine Merrill. Coming afterward to California, he established himself in the Yosemite Valley while there were still very few who knew anything of the grandeur and glory of that incomparable gorge. When we met him he had recently emerged from several years of hermithood, to be received with marked appreciation as a result of his delightful essays on the High Sierra. He had also recently married, and had acquired a large ranch near Martinez, where he spent the greater part of his later life. Simple-hearted and enthusiastic, possessed of a finely attuned mind, he impressed his personality strongly and without effort upon others. James Bryce, his countryman by blood, seems to me much the same type of man. When Bryce was British Ambassador at Washington, he visited California and became acquainted with Muir, whom he cordially admired.

Bryce

"Joe" Le Conte

During our stay in San Francisco we met the leaders in the State University at Berkeley, especially the president, John L. Le Conte, and his brilliant and devoted brother, Joseph, who occupied the chair of Natural History, and of whom I shall have more to say hereafter. Naturally, also, we were closely associated with the workers in the Academy of Sciences, which then occupied a basement on the

Academy of Sciences

edge of "Chinatown." Dr. George Davidson, an eminent civil engineer and geographer, long head of the United States Coast and Geodetic Survey, was then president; the curator of fishes, William Neale Lockington, an English naturalist, gave us material assistance. And in 1879 Lockington dedicated to me *Eopsetta jordani*, the first fish ever named in my honor. This is the flounder called "English Sole" by the local fishermen, a toothsome creature resembling the true sole of Europe — *Solea solea* — in flavor, but in no other respect, — not being a sole at all, and not English either. Two other self-sacrificing volunteers busy in the academy for pure love of the work were Dr. A. Kellogg, the botanist, and W. G. W. Harford, the zoölogist, with both of whom we had frequent relations. But the ablest of this group, Dr. John G. Cooper, the ornithologist, had already retired from technical work.

In the early '80's the city by the Golden Gate[1] was still a merry community where Law and Order were sometimes subordinated to designs of a more personal character. At the time of our visit the mayor, a prominent clergyman, was also a leading politician, and therefore subject to blackmail, an activity not yet disentangled from reform. Both reform and blackmail had their seat in newspaper offices. Editors were accordingly fair game to aggrieved political operators. "James King of William," as he signed himself, the fearless editor of the *Bulletin*, had been shot by a gambler not

"James King of William"

[1] Serene, indifferent of Fate,
She sits beside the Golden Gate.
BRET HARTE

POINT LOBOS

Photograph by J. Paul Edwards

long before our arrival — a crime soon avenged by the famous Vigilance Committee, actually composed of "best citizens" whose patience had passed its limit. During my stay the son of the mayor shot the editor of the *Chronicle;* but the Vigilance Committee was not called out, the latter's enemies having asserted that he got only "what was coming to him," or words to that effect. As to this judgment I venture no opinion, having no personal knowledge of the matters involved.

Professional mediums

For entertainment we occasionally attended the séances of some of the many professional mediums operating in the city. Spirit voices projected (in the dark) through long trumpets, banjos made to float in the air by means of balloon gas, materializations in which the form of the medium or her assistant could be detected in spite of false beard and other "spiritual" accessories, all were part of the stock in trade of the more clever. One whom we visited went into a trance in broad daylight for the benefit of an interested old gentleman who asked many questions in his efforts to identify the dear departed, and thus gave clues which the medium was quick to seize. Finally he said: "This must be my mother's mother." "Yes," came the hasty reply; "I now see clearly the letters G. M. M. — grandmother on the mother's side."

On our own account we found it easy to call up spirits whose names we wrote on paper; equally easy whether we used the names of real people, alive or dead, or of those who never lived. That all these manifestations were frauds goes without saying. As to other mediums or psychic phenomena elsewhere, it of course proves nothing. But only

the most patient investigation with scientific methods can separate the realities from illusion and fraud.

In magicians and sleight-of-hand performances, however, I have always taken a mild interest. As a rule, also, the operations of acknowledged illusionists are more bewildering and harder to explain than those of the mediums and "psychics" I have myself happened to see. In 1875 a man named Brown was attracting much attention in Indianapolis as a "mind reader," his skill being due to what he called "odic force." One evening Copeland and I offered ourselves for public experimentation, and the former was given something to hide in the audience room. Brown, being blindfolded, put his hand on Copeland's shoulder and speedily raced him to the hidden object. The feat was cleverly done, but we interpreted it as "muscle reading" rather than any mysterious divination of the mind.

"Odic force"

Coming then to me, Brown said I was to concentrate my mind on some pain I might be feeling at the time. It being a cold night, my feet were chilled and I selected a slight discomfort in my right great toe. Standing pat on this involved no muscular movement; Brown found none and gave it up. He next asked me to fancy an imaginary pain; I therefore thought that a ring was pinching me, but that also failed to stir any muscles, and he gave it up again, accusing me of "failure to concentrate." Whenever movement was involved, he showed considerable skill. His "odic force" lay doubtless in a quick interpretation of involuntary impulses controlling muscular action.

In "Chinatown," a little Old World center with all its inbred vices and incidental virtues planted in the heart of an intensely Western city, Gilbert and I found much of interest. The San Francisco Chinese, moreover, were even greedier fishermen than those of San Diego! Their catch also was mainly salted and dried for export to China; nothing being too small for such purposes, they were frequently before the courts for using nets with too fine a mesh. So I became somewhat expert in their "pidgin English" — that is, "business English" by which our language is reduced to the lowest terms possible, still remaining fairly intelligible; and I amused myself by describing their activities in correct "pidgin" verse: *"Chinatown"*

Mellican man go China side
Catchee China dishee;
China man go Mellican side
Catchee Mellican fishee.

Once I asked a Chinese boat steward where the first officer was. The answer, "Him blong chow," expressed in correct and intelligible "pidgin" the fact that the man I wanted was at dinner.

A large part of our work on the Coast was to gather statistics, but it was not easy to extract the necessary information from a "Chinaman." The truth, he figured, might hurt, while falsehood would probably be harmless! Hence his answers were incorrect, the more so in proportion as "his smile was childlike and bland." But the Chinese have their own code. A dealer, for instance, will always pay his debts on time; the immemorial custom of his native land takes care of that, for to break a contract *A Chinese code*

is to be virtually outlawed so far as business is concerned. Nevertheless, he may pay in counterfeit coin if you are so trustful as to accept it; that's your own lookout.

His illusions are quite different from ours. He is mortally afraid of the *Feng-shui* or evil earth spirit, who may be disturbed by an excavation; for much better reasons he fears the secret attacks of a rival *tong*. Of American methods of incantation, however, he has his opinion. When the Lighthouse Board wished to install a foghorn near Monterey, and the agent found that the necessary location belonged to a Chinese, he carefully explained why Uncle Sam must have the land. The owner replied: "Uncle Sam dam fool. I come over from Oakland to San Francisco — big steam whistle on Goat Island blow hard — dam fog come in allee same." But once when I found a man placing red paper trinkets in a little Chinese graveyard and asked him what he was doing, he turned and pointing upward said: "He all same Joss who."

Uncle Sam's incantation ineffective

After a fairly thorough investigation of the marine interests of San Francisco and neighboring waters, we went in May directly to Astoria, the great salmon center of our coast at the mouth of the Columbia, though we then remained only long enough to make a general survey of the situation, as we planned to return later for intensive study of the King or Chinook salmon during its main run in enormous numbers in late June. This is the only one of the five species which has economic importance in the Columbia or Sacramento. Proceeding now northward to Puget Sound, we investigated

Chinook salmon

the fisheries in the various towns, especially Seattle, Port Townsend, New Westminster, and Victoria.

Puget Sound

By 1880 the territory of Washington was beginning to feel ambitious. Already a number of small saw-mill settlements had sprung up along the magnificent landlocked expanse of Puget Sound. The most important cities were Olympia, the capital, and Port Townsend, the metropolis. Tacoma boasted fewer than a dozen houses, but the railway from Portland having reached the town, it had great prospects due to its incomparable site, a smooth plateau sloping gently to the sound. Directly in front, moreover, towers the majestically beautiful pyramid of Mount Rainier, 14,520 feet high, illumined on our first evening by a superb alpenglow, the rosy reflection on snow from red sunset clouds. Yet its noble harbor, Commencement Bay, is not well adapted for shipping, because the great depth of water, the result of deep scoring by glaciers from the mountain, makes it difficult for anchors to touch bottom.

Tacoma and Seattle

The neighboring town of Seattle, destined to become a great city, — its whole water front being available for wharves and docks, — was then just beginning to find itself. And even so early the people modestly maintained that some day the population of Washington would be large enough to justify its recognition as a state. With that idea in mind they had already laid at Seattle the foundation of the future State University, an infant institution located in a private residence on the hill. The faculty consisted of Dr. Alexander J. Anderson, the president, and his wife and daughter. To the forty students, more or less, I gave a lecture on the

An infant university

Dogfish — *Squalus sucklii* — a kind of shark locally abundant. Among the eager lads I remember one "Eddie Meany," [1] now for twenty-three years the professor of American History in the flourishing university grown from the humble beginning I have indicated.

Since that time other cities have risen about the Sound, but in population and business Seattle retains a long lead. Meanwhile Olympia, still the capital, and Port Townsend (both isolated from the currents of traffic) have grown but little — the latter, indeed, not at all.

At Neah Bay

In the course of our work we spent some time at Neah Bay and Waada Island at the entrance of the Straits of Juan de Fuca, the outlet to Puget Sound. There on the Makah Indian Reservation we saw much of the natives, and acquired some mastery of the Chinook jargon — a mixture of Siwash, English, and French, comparable to the "pidgin English" of China. A white man is *Boston man;* an Indian, *Siwash;* very, *hyas;* worthless, *cultus.* Thus *hyas cultus Boston man* means a white idler; *Boston Siwash,* a negro or Chinese. Meaning often matches sound; *skookum chuck,* for example, denotes a waterfall. French words are not uncommon, *laselle* being a saddle — *latete,* the head. And Siwash boys are frequently eager to secure "Boston names," among which Lincoln is a favorite one.

The Indians of the Northwest are relatively industrious and competent, so that many of them hold their own in business, or even in the professions, although it must be admitted that most

[1] Edmond Stephen Meany.

MOUNT RAINIER

Photograph by Asahel Curtis Photo. Co.

of their educated men are at least half white. The conservative among them, however, still cling to primitive methods. One night I watched an old-time "medicine man" in the tent of a fever-stricken Siwash. After many incantations he succeeded in materializing the malady in his own mouth in the form of a little trout which he then spat out, relieving the patient and effecting a cure. If lizards had been available about Cape Flattery, he would probably have used one of them, as is said to be the custom farther south.

Siwash incantation

While not required by our instructions to do so, we nevertheless inspected the (Canadian) fisheries of Fraser River, one of the great salmon streams of the world. There the Red Salmon or Blueback — locally "Sockeye" [1] — predominates. I should here explain that the relative abundance of this form in the Columbia and Fraser rivers is due to the multitude of lakes tributary to the latter, for the Red Salmon spawns only in a stream above a lake in which the young always spend the first year.[2]

At Victoria on Vancouver Island we remained for a time, studying the fishes which swarm in the fine rock-bound, landlocked harbor. This ultra-conservative city imagined itself a bit of England dropped on a distant shore. But Vancouver, a frontier village on the mainland, became typically Western, with nothing to differentiate it from a frontier village of our own Northwest. Since that day it alone of the Canadian towns on Puget Sound

Victoria

[1] "Sockeye" is a corruption of the Chinook name, which sounds rather like *Sukkegh*.

[2] It may also be noted that in numerous lakes of Idaho, Washington, and northern Japan many individuals never descend to the sea, remaining landlocked all their lives and rarely attaining more than a foot in length.

has shared the rapid growth of Seattle and its neighbors — Tacoma, Bellingham, and Everett.

One day we worked at Saanich Arm, a deep fjord of clear water some miles to the north of Victoria.

A potlatch

A great native feast or *potlatch*, which drew Indians from all over the island, was then going on at the head of the arm. During a *potlatch* the host not only feeds all his guests, but with excess of hospitality gives away every movable thing he has. Afterward he slowly recuperates by attendance at similar functions arranged by his neighbors.

When we attempted to turn over to them the surplus of our net, the Indians scorned mere surf fish and herring, all we had to offer, their epicurean taste demanding salmon, halibut, or eulachon.

4

From the standpoint of science the most important result of our year on the Pacific Coast was the making of an accurate list of the shore fishes, about 400 in all, eighty of which were new to science. On the economic side, by far the weightiest matter was the tracing of the characters of the five species of salmon in Pacific Coast rivers, especially the Columbia, Fraser, and Sacramento.

The five salmon

These are popularly known as the King Salmon or Chinook — *Oncorhynchus tschawytscha;* the Red Salmon — *Oncorhynchus nerka;* the Silver Salmon — *Oncorhynchus kisutsch;* the Calico Salmon — *Oncorhynchus keta;* and the Humpback — *Oncorhynchus gorbuscha.*[1] All spawn but a single time, usually

[1] Stefan Petrovich Krascheninikov, in his "Description of Kamchatka and the Kuril Islands" (1764), mentioned the Russian vernacular names of the five kinds of salmon, and in 1792 Walbaum made picturesque use of them in scientific nomenclature.

at the age of four years in the larger species, at two in the smaller Humpback; and every individual, male or female, dies after spawning. The two noble salmon, the Chinook and the Red, ascend streams to their fountain heads. Salmon are known to run up the Yukon as far as the streams at the head of Lake Labarge — that is, some 1800 miles. Both King Salmon and Red Salmon go up the Columbia to the Bitter Root Mountains of Idaho, a distance of over a thousand miles. Red Salmon, as already noted, spawn only above a lake; as a matter of fact, also, the species has never even once been seen in a stream without a lake. Yet it makes no difference whether the inevitable water lies only five or six miles from the sea, as in the case of Lake Boca de Quadra, or whether, as in the case of Labarge, it is enormously distant. *Spawning habits*

One of the most difficult problems in animal psychology, as yet unsolved, concerns this extraordinary instinct. How, when eggs and milt are ripening, does a Red Salmon distinguish between streams that have lakes and those that have not? Has he perhaps a lingering remembrance dating from the time he drifted, a fingerling, tail foremost down to the sea, of the location of the lake in which he grew up? Perhaps. And why is the Red Salmon alone so attracted to lakes, while all other forms are totally indifferent to them? Again, how does he know when to start? The Columbia is a whole summer's job; the Chilcoot, the Chilcat, the Karluk, or the Boca de Quadra can be ascended in a day.

At Astoria the three firms of Booth, Kinney, and Badollet had just begun to can salmon, which they shipped all over the world; to this industry Gilbert and I have since had a continuous relation. Our report in the Census of 1880 was the first serious study of salmon fishery and its methods. I myself was connected with almost all investigations concerning it for the next thirty years. Gilbert's responsibility still endures, a series of intensive studies being now (1920) carried on in Alaska under his direction. One important result of recent research

is his definite determination of the age of an individual by a study of its scales. These grow in minute concentric ridges or rings, those produced in winter, the period of slowest growth, lying close together and forming definite bands which are readily counted under the microscope. By this means he was able to verify our previous assumption that the King Salmon spawns usually at four years, though some individuals delay until the fifth, sixth, or seventh year, and a few (all males) spawn, though more or less prematurely, at three. But these last are Nature's windfalls and count for nothing in the continuation of the species. At four years the average weight is not far from twenty-two pounds; old individuals, late-maturing, may reach eighty or even more.

Age of salmon

The Eulachon

In the Columbia, as in all the streams up to Sitka, run also prodigious numbers of eulachon — *Thaleichthys pacificus* — a little smelt-like fish with the spawning habits of a salmon. When absolutely fresh and not "spent," it is in my judgment the most delicious of all fishes — delicate, fragrant, saturated with an exquisite and readily digested oil. William Clark (of the Lewis and Clark Expedition) expressed the same opinion at Astoria a century ago. After the spawning season, however, the flesh becomes mealy and free from oil, although still excellent as food.

The Indians of southern Alaska put the eulachon into large vats containing hot stones to try out the oil, of which they are very fond, notwithstanding that the huge catch spoils on their hands and the place can be smelt for miles. "Eulachon" looks

like Greek, but it is really Indian; as spoken by the natives, it would be spelled "Ulchn."

Shad, striped bass, catfish, and carp

At Astoria I secured the first shad — *Alosa sapidissima* — recorded from the Pacific Coast, and sent it on to Washington. Eggs and young fish had been brought from the Potomac and planted in the Sacramento in 1877 by the California commissioner of fisheries, Benjamin B. Redding, Mark Hopkins of Sacramento defraying the cost. The species has since enormously multiplied on the Coast, so that it is now more plentiful here than in the Atlantic and spawns in all the large streams from the Sacramento northward to southern Alaska.

At the same time the young of the Striped Bass — *Roccus lineatus* — the Horned Pout — *Ameiurus nebulosus* — and the Fork-tailed Catfish of the Potomac — *Ameiurus catus* — were also brought over. Each then multiplied after its kind, as did the later importations of the Large-mouth Black Bass — *Micropterus salmoides* — the Bluegill — *Lepomis pallidus* — and (in the Columbia) the Yellow Perch — *Perca flavescens* — and the Crappie — *Pomoxis sparoides*. The Carp — *Cyprinus carpio* — was also successfully introduced at about the same time, becoming as elsewhere in America an unmitigated nuisance, for it roots in the ground like a pig, and keeps sluggish waters constantly muddy. Since its introduction Clear Lake, the largest of the volcanic depressions in California, no longer justifies the name.

Tropical explorations

In September our work was finished. Our manuscript report we had sent back to Washington, bunch by bunch, as soon as it was ready, to be edited and published as part of Goode's general report on the fishing interests of the United States. Gilbert now started for Washington by way of Mazatlan and Panama, a long détour on which he secured the first coherent knowledge of the fish fauna of the west coast of tropical America. The next winter he again visited the Isthmus, collecting a large amount of

additional material, from which we prepared an extensive treatise on the fishes from Mazatlan southward; but specimens and manuscripts alike were destroyed in the fire of 1883 at the University of Indiana.

The Panama Canal

In 1880 the first attempt at digging a Panama Canal was being made under the auspices of Ferdinand de Lesseps. But living was very precarious there on account of poisonous malarial fevers attributed then to the escape of "miasma" from the earth, but now known to be borne from person to person solely by mosquitoes. Uncertainty of life begets moral recklessness, a fact amply verified by the French engineers on the Isthmus. Of the seventy or more employed there in 1880, very many had passed away before 1881, when Gilbert made his second visit. Later, however, as all the world knows, studies of the mosquito's relationship to yellow fever by Dr. Walter Reed and his colleagues showed the nature and origin of the disease and its allies. And now, following the extermination of the plague bearer, Panama is as healthy as any hot seaport can well be.

5

Tahoe trout

In September I returned home by way of Lake Tahoe and Salt Lake City. At Tahoe City I made a collection of the lake fishes, some of them new to science, giving special attention to the splendid trout — *Salmo henshawi* — characteristic of those waters as of all others tributary to the basin of the post-glacial Lake Lahontan, which once filled the interior of Nevada.

In Utah I stopped for a time at Provo, the "Garden City," to study the fish fauna of the valley of the Great Salt Lake. This investigation opened new problems, economic and otherwise — one of them a matter of conservation, for thousands of trout entered the irrigation ditches from the Provo and Jordan rivers, only to be scattered high and dry over the meadows of Zion.

A Mormon friend

In Provo I received considerable help from Peter Madsen, a shrewd but unsophisticated Mormon elder of Danish birth, who lived on the shores of Utah Lake, where, with several wives and an overflowing family of strapping lads, he maintained himself by fishing. Twenty-five years later, revisiting Provo, I called on Madsen, then a bishop. The old man at once sent for a photographer in order to have a picture of himself and me together, a memorial of former days.

Lake Bonneville

As a geologist to some degree, I was much interested in the enormous post-glacial Lake Bonneville, of which the Great Salt Lake is the main relic. High above the latter on every side there plainly appear successive terraces, indicating ancient levels which obtained when the inflow from melting glaciers was much greater than that from the present tributaries, the Provo, Jordan, Weber, and Bear rivers. In summer time the lake itself is salt to saturation, being thus so heavy that one floats like a cork, and the only trouble is to keep one's head out of the smarting water. Of animal life there is none save the larva of a certain fly and a species of brine shrimp.

The fish fauna of the tributary streams is approximately that of the Snake River, into which the

A great sucker pond

drainage of Lake Bonneville used to run. Utah Lake, at the head of the Jordan flowing in from the south, is full of fine trout, and my Mormon friends used to claim it as "the greatest sucker pond in the Universe," three large species — *Chasmistes liorus*, *Chasmistes fecundus*, and *Catostomus ardens* — swarming there in prodigious numbers.

The "Mormon menace"

At the time of my visit to Utah there was much discussion in the East about the "Mormon menace," and many thought polygamy should be "stamped out" by military force. In any nation one may always find intolerant supporters of conventional beliefs, who would "stamp out" every form of opinion which they have come "to view with alarm." But really serious objection could then be made to certain features of Mormonism; namely, polygamy and autocratic control. The first had already begun to pass; the second, however, was still much in evidence. For the theocratic hierarchy of the "Latter-Day Saints," through a system of tithes and by means of its business branch, "Zion Coöperative Mercantile Association," held absolute mastery over all Utah outside Salt Lake and Ogden as well as over much of Idaho and Nevada. Entire control of irrigation and markets lay in the hands of the bishops and elders; a thumb on the irrigating ditch, and the crops perished in the fields!

While in the territory, therefore, I gave some attention to the special problems of Mormonism, on which subject I prepared an essay read several times publicly but never printed. In it I tried to make clear a number of points, among them the necessity of tolerance.

The Mormons are, after all, at bottom very much like other people, the sect having been originally solidified and confirmed in its peculiar tenets by the relentless persecution from which it suffered at Nauvoo (Illinois) and elsewhere. And the fearful journey across the plains to the land of "Deseret" gave a sanctity to the hope by which their spirits were upborne. To the small early group of American stock has been added, by a system of proselytism both ingenious and effective, a large body of simple-hearted and kindly European peasants, mostly from the Scandinavian countries. All these form a population which, as a whole, is peaceable, sober, and devout — holding perhaps to more articles of faith than most of us would accept, but good citizens from any point of view, and of the sturdy stock from which loyal Americans are made. In my judgment, also, the only remedy for those features of Mormonism to which we had the right to object lay, not in suppression, imprisonment, or bloodshed, nor in expropriation of church properties, but in education and assimilation. This result, I claimed, would naturally follow schooling and increasing contact with the outside world; in the free air of modernism, the antiquated theory which underlies polygamy would soon pass away.

Value of patience

Events proved the wisdom of moderate counsels. Plural marriage has ceased to be a feature of the Mormon practice in our country — not primarily because it was made illegal by national legislation, but because a different ideal has come to prevail. The railways centering in Salt Lake City and Ogden have brought Utah into the Union. Its ideals and its politics are now national, and its

church is simply one among many Christian denominations. And however much we may regret the multiplication of sects to which we do not personally belong, it is the natural way in which religious feeling expresses itself in democracy.

CHAPTER TEN

I

Building up a laboratory

On my return to the University in the early fall, I once more devoted my energies to teaching, putting forth special efforts on behalf of those students who showed a genuine love of nature, as well as of those who found in my laboratory a kind of training they received nowhere else. As a consequence, a number of excellent men were soon drawn to us from various parts of the West by the opportunity for original study in Zoölogy and Geology; and the scientific work of the state, at least so far as those two branches, and later Botany also, are concerned, has ever since been mainly centered in Bloomington.

To meet the needs of my students it now became necessary to modify the conventional curriculum. As I have before explained, up to that time colleges generally (the denominational schools in particular) had maintained fixed courses, a few electives only being grudgingly allowed, and these postponed as a rule to the senior year. That is, under pressure of student demands, the classical curriculum had already begun to break, yielding little by little to courses regarded by the classicists as "inferior," with modern languages in place of Greek, and sometimes fragmentary science as a partial substitute. The new courses, composed of odds and ends, were known as "Literature," "Science," or "Philosophy," and led to the Bachelor's Degree of B.L., Ph.B., or B.S., according to their nominal make-up.

Varying degrees

Patchwork courses

To these "patchwork" arrangements I had consistently objected; every college course should have some one line of work as a backbone. As Agassiz used to say, "the mind is made strong by the thorough possession of something." It was the chief merit of the classical course that it had backbone, but its central axis of culture was by no means adapted to all kinds of brain stuff. Intellect feeds on what it digests; insistence on the same training for all is violence to "the democracy of the intellect."

For some kinds of students the classical course was well adapted. Unfortunately, however, it was often conducted in such a way as to give point to the argument I have occasionally heard in England, that "teachers incompetent to handle the modern branches do well enough in Latin."

In urging the claims of science, I had no desire to supplant Latin or Greek, but simply to give every one the right to choose in accordance with his own powers and tastes. A goodly number of young people do not take to Latin literature, — from it they draw no intellectual nourishment, — and by confining college work to the classics, faculties had deprived many engineers, naturalists, business men, and even some historians of university training. The value of Greek to those whom Emerson calls "Greek-minded men" I would not question. As Thoreau observed, "Those who talk of forgetting Greek are those who never knew it." And I regret not knowing more Greek myself, not so much for the sake of its noble literature, perhaps, as for the language, its fine, sonorous syllables having taken such a large part in word framing. But I am strongly

Value of Greek

convinced of the folly of making education hang on any one peg.

Thoroughness essential

Advanced work, also, has higher training value than the elementary, and to have it in some one line is more strengthening than to acquire a smattering of many things. Furthermore, advanced work that bears a relation to one's own life is better than something that does not. Indeed, very little work of the highest order is ever done without the element of volition, and the will to work comes either from love of a study for itself, or from recognition of its relation to one's future. Such a view of education inevitably leads to a generous freedom of election. The duty of real teachers is to adapt the work to the student, not the student to the work. Higher education should thus foster divergence instead of conformity, its function being not to bring youths to a predetermined standard, but to help each to make the most of his inborn talents. A prearranged course of study is like ready-made clothing, fitting nobody in particular; it is the acme of educational laziness.

Elective system in its infancy

In the University of Indiana the elective system now began to creep in slowly. At one time I succeeded in arranging that sophomores should be allowed to choose between Biology and Latin for a year's work. To the great surprise of the professor of Latin his best students took advantage of the opportunity, and the leader of these, Carl H. Eigenmann, found in Zoölogy the passion of his life.

Eigenmann, though reared in southern Indiana, was born in Germany, and possessed the enduring German qualities of inveterate persistence and endless patience with detail. In time he became instructor in my department. Later he spent some

Conspicuous undergraduate students

years of research in California, being then (1891) called back to the university as professor of Zoölogy. Ultimately, as a result of many expeditions to South America, largely in connection with the Carnegie Museum at Pittsburgh, he came to be the highest authority on the river fish fauna of the whole southern continent.

Conspicuous also among our zoölogical students was Barton W. Evermann,[1] who followed Eigenmann, his classmate, as instructor in charge of my laboratory. Evermann went afterwards as professor of Zoölogy to the State Normal School at Terre Haute, and served still later, for many years, as zoological expert of the United States Bureau of Fisheries. The latter position he held until 1913, publishing meanwhile numerous papers and being associated with me in the authorship of several books, the most important of which is "The Fishes of North and Middle America," in four volumes.[2] Upon leaving the Bureau of Fisheries, he became curator of the California Academy of Sciences, an office he has successfully filled, a superb series of landscape groups of animals in their natural environment, completed by him, being the most striking feature of the Academy Museum.

Two other members of the same class, Charles L. Edwards and Jerome F. McNeill, were also special students of mine. Edwards became a well-known naturalist, and after having served as professor in Eastern institutions, he some years ago took charge of science teaching in the schools of Los Angeles. McNeill afterward devoted himself to Entomology.

Another youth who promised to reach the front rank in Zoölogy was Charles H. Bollman, a native of Bloomington, who devoted himself with remarkable energy and persistence to the study of fishes and insects. In company with Bert Fesler, a fellow student of whom I shall subsequently speak, he undertook in 1887 an exploration of the Okefinokee Swamp in southern Georgia. There he was attacked by malarial fever, from which he died, to the distinct loss of American science. His admirable papers on insects were afterward reprinted as a special volume by the Smithsonian. Still another gifted young naturalist, of varied interests but brief career, was

[1] See Chapter VII, page 169. [2] See Chapter XXI, page 524.

William W. Norman, who became professor in the University of Texas and died untimely.

Among other fine fellows in my department were Willis S. Blatchley, who became state geologist of Indiana; Aldred S. Warthin, botanist, now professor of Pathology in the University of Michigan; and Ernest P. Bicknell, who rose to the headship of a division of the American Red Cross.

Graduate students

Among graduate students who took their Doctor's degree with me were Seth E. Meek, later known for his explorations of the rivers of Mexico and Central America while acting as curator in the Field Museum at Chicago, and Oliver P. Jenkins, whose best zoölogical work was the investigation of the fish fauna of Hawaii. Jenkins, however, devoted himself afterward to Physiology and became the first professor of that subject in Stanford University, retiring as emeritus in 1916.

To a somewhat different category belonged Gilbert (already amply introduced), who had become assistant professor in my department, and McKay, my best student at Appleton, who later followed me to Butler and then on to Bloomington, and of whose death I have previously written. But here enters for the first time Joseph Swain, who succeeded Gilbert in my laboratory — though as instructor only — when the latter went to the University of Cincinnati. Swain was a young Quaker giant, six feet four and broad in porportion, a great athlete, a man of royal good nature, who entered the university as freshman the year I came as professor (1879). Seeing that he showed much promise, I early persuaded him to work for a professorship in either Biology or Mathematics. As a matter of fact, he specialized in both, becoming first instructor in the one and then in the other, and afterward professor of Mathematics in succession to Dr. Kirkwood. Of his subsequent career I shall frequently have occasion to speak.

Not all zoölogists

Of course, not all those who did advanced work with me intended to become professional zoölogists. Bert Fesler once said that he got his best training for the law from a study of the mackerel tribe! Other ambitious students with whom I came into more or less intimate contact were Ellwood P. Cubberley, now for many years professor of Education at Stanford; Rufus L. Green, who succeeded Swain as professor of Mathematics at Indiana, and who later followed him to Stanford;

William A. Millis, now president of Hanover College; James W. Fesler, now president of the Indiana board of trustees; Homer Dibell, now justice of the Supreme Court of Minnesota; Fletcher B. Dresslar, professor of Education in different universities, East and West; Henry Landes, my brother-in-law, now and for many years professor of Geology at the State University at Seattle and state geologist of Washington; David K. Goss, afterward principal of a boys' school at Strassburg, where he met a tragic death; and David A. Curry, a student of Greek, who followed us to Stanford, and to whose later career I shall shortly refer.

Amos Butler

In this general connection I must mention also a young naturalist whose relations to my work, though not in the laboratory, were often very close. Amos W. Butler I came to know as secretary of a Natural History Society at Brookville, a picturesque village where a number of young men were enthusiastically studying the animals and plants of the neighborhood. From this interesting beginning arose the Indiana Academy of Sciences, of which I was the first president. Butler had earlier been a student in the university with its hard and fast classical courses. But there he spent so much more time on birds than on Latin that he was debarred from graduation, though he later became the leading ornithologist of the state. Many years afterward, during President Bryan's administration, he was called back to receive his degree, fairly earned according to the new dispensation. More recently he has devoted himself to human biology — the study of poverty, misery, and crime — becoming secretary of the Indiana State Board of Charities.

Sorting the fishes

During the Christmas holidays of this year, I went on to Washington to sort out the contents of the many tanks of fishes Gilbert and I had forwarded to the Smithsonian from the Pacific Coast. In this matter I was ably assisted by Mr. Pierre L. Jouy. After taking out a complete series for retention at the Museum and one of duplicates for the University of Indiana, we divided the rest into several sets which were sent to the leading museums of

the world. (This work was the first to be done in the new National Museum building, just then opened, but since [1915] replaced by one far larger and more commodious.) Later, as a literary aftermath of our investigations on the Columbia and a sort of companion piece to my "Story of a Stone," I wrote "The Story of a Salmon,"[1] a piece of simplified Natural History dealing with the life and ways of the Chinook Salmon. This has been reprinted more frequently than anything else from my pen; being readable and accurate, it perhaps deserves its vogue.

"Story of a Salmon"

2

In the summer of 1881 I again went to Europe, covering much the same ground as in 1879, but now adding to former experiences among the high mountains an ascent of the Matterhorn. Of this reckless adventure a somewhat detailed account will be found in the following chapter, in which I shall treat of all my early European trips as a whole.

In the spring of 1882 I made a collecting trip to the Gulf Coast from Pensacola to Galveston. Up to that time all my investigations in the South had been at my own expense, the Fish Commission furnishing at the most only nets and alcohol. On these explorations of 1882, however, and all similar later ones under the auspices of the Commission, my actual expenses and those of my scientific associates (but nothing more other than the slight exception noted below) were met by the United States. On these terms I was able to command the best of help. If salaries had been paid, the hangers-on

Along the Gulf

[1] First published in *The Popular Science Monthly* for January, 1881.

of Congress would have tried to monopolize the positions, thus defeating the scientific objects in view. In 1901, however, arranging for an exploration of Hawaii, Commissioner George M. Bowers insisted on an allowance of a dollar a day to each man to cover unavoidable tips and general wear and tear of clothes, a system since continued for most such expeditions.

A dollar a day

Pensacola I found to be the center of a region extremely rich in fishes. It was also the residence of my friend Stearns, who, driven from his native Maine by failing health, had now established himself in town with a wholesale fishing firm. Stearns was a keen and competent naturalist, but even the soft climate of Florida failed to save his life.

From Pensacola I went along the coast through Ocean Springs and Pass Christian, pleasant seaside resorts close to the "piney woods." At New Orleans I would have liked to discover something of the atmosphere of "Old Creole Days," so graciously pictured by George W. Cable. In the old French Market I took special delight, but one has to live in the city long enough to get below the surface in order to visualize the tragedy of "The Grandissimes" or to meet the charming "Madame Délicieuse."

In New Orleans

When I left New Orleans, the Mississippi was at its height and, having broken through the levees, had spread out in an ancient channel, the Bayou Atchafalaya. Here and there house gables appeared rakishly above the water, and in most places one could hardly see across to the farther shore.

Broken levees

Similar inundations will doubtless occur as long as present conditions exist, for the continued extension of barriers along its sides increasingly

narrows the bed of the stream, so that silt accumulates, steadily raising the water level and thus constantly augmenting the danger from floods. And the cutting away of the timber on the great Northern tributaries — the Ohio, Tennessee, and Cumberland especially — allows the water from spring rains to run off more and more quickly, swelling the lower reaches of the Mississippi and adding to the troubles of the delta state of Louisiana. Necessary readjustment at the river's mouth must ultimately become a national problem.

Varied fauna

In Lake Pontchartrain, a large, brackish sheet of water near New Orleans, I found a curious mixture of sea and river forms. There small sharks disputed with channel cats over the garbage thrown from the wharves. In surrounding swamps the bottoms were lined with rough water snakes — *Natrix sipedon* — hibernating through the warm winter. Not far away I saw a big alligator lashing the bushes but getting nowhere; on investigation I discovered that he was tied by one leg to a tree!

A little experiment

The following summer I had a curious experience while making a second visit to Wyandotte Cave in the neighborhood of Corydon, Harrison County, Indiana. That huge cavern in the limestone rock extends for several miles and has never yet been explored to the end. Our party consisted of a number of people from Indianapolis, under the direction of the state geologist, Dr. E. T. Cox. After penetrating underground for about three miles, we started back at noon. Being somewhat in advance of the rest of the party, I decided to try a little experiment and see what absolute darkness would be like.

In utter darkness

I therefore sat down on "the Hippopotamus," a large clay bank in an open chamber, blew out my candle, and prepared to wait for the rest to come up. Meanwhile, however, it was very dark and very quiet, and I went to sleep, awaking just as the last light disappeared around a bend.

I at once rushed after my friends, but very soon discovered that without light or sound it is impossible to maintain direction. The plan often suggested of following one side steadily in and out of the passages until you come to the end was wholly impracticable, for I was upwards of three miles from the entrance, and many unexplored side chambers diverge on the way. So, choosing a comparatively open place, I felt about on the floor until I found the track of a woman's shoe, which indicated that the party had passed that spot, and the direction in which they had gone. I then determined to stay right there until I could be rescued. It was damp and cold — a minor matter of course, when one is young — and occasional droppings of water sounded unusually loud, not having to compete with anything else.

Rescue

As the others knew I had walked on ahead, they naturally thought I had gone out; not finding me, however, some said that my interest in Botany had led me to roam about for a while, but luncheon or surely dinner would bring me back to the hotel. Fortunately one or two persons, especially Mr. W. W. Woollen, a business man, were not satisfied with this argument. So when I failed to come in for the midday meal, he insisted on sending three guides back to the cave with food and brandy. Along about four o'clock, therefore, I heard a noise and

soon the men appeared. The flask of spirits I allowed them to divide among themselves, but the food was welcome.

University of Illinois

In the course of the same summer President Selim H. Peabody offered me the professorship of Zoölogy in the University of Illinois, situated at Urbana. Nevertheless, I decided to remain at Bloomington, although the other institution was larger and better equipped than the University of Indiana. But there seemed to me nothing more dreary than a prairie town in the month of August when the roads were lined with mayweed and the streets alternated between flying dust and bottomless mud; for in those days neither asphalt nor concrete had been thought of for highways. The chair in question was filled by the appointment of my good friend, Dr. Stephen A. Forbes, a very able naturalist, at that time director of the Zoölogical Laboratory at Normal, Illinois.

A weighty work

In September of this year appeared the first extensive memoir by Jordan and Gilbert, "A Synopsis of the Fishes of North America," this being also the first complete and coherent account of the forms of which it treated. Furthermore, I may frankly say that it played a large part in the history of American Ichthyology, paving the way, however, for its own replacement (in 1896) by the much more extended treatise, "The Fishes of North and Middle America," of Jordan and Evermann.

3

In the spring of 1883 I made an interesting excursion to the South in the name of Geology. It was then the custom for Western colleges to grant

the senior class a vacation of three weeks at the end of the academic year, in order that they might prepare their graduating orations. For the tradition that each member should discuss some public question on receiving his degree died slowly; it had, moreover, a certain practical value in bringing the families and friends of the young orators to Commencement. And when the larger number of graduates made it impossible for all to appear, six or eight were chosen, usually according to merit of one kind or another, though sometimes by lot. Afterward a distinguished speaker from the outside divided the time with a few senior orators, or (later still) with the president, who gave the class a farewell word of advice.

The senior tramp

As the eighteen members of the class of '83 were all students of mine in Geology, we arranged to utilize the special vacation for a geological tramp across southeastern Kentucky from Rock Castle River to Cumberland Falls and Cumberland Gap, returning by way of Mammoth Cave — a total distance of two hundred miles across a region wonderfully picturesque, through noble forests intersected by sparkling streams, and all instructive from every point of view.

Mountain folk

Not the least element of interest lay in the mountain folk themselves. Simple, unlettered, poor but hospitable, they gave us whatever they could, though often our whole company, the men at least, had to sleep on the ground or on the floor of barn or porch. Corn bread, bacon, eggs, and milk were the only foods on which we could regularly count, with occasionally a chicken or "a mess of saleratus (soda)

biscuit." Their bread they "used to raise" by the elaborate process known as "salt rising," but they had "mostly got out of the habit" and so baked "quick" breads raised by soda and sour milk and shortened with lard, an American practice too common among our pioneers. When coffee was to be had, they provided "long sweetening"; namely, sorghum molasses.

These people are still essentially English peasants shut away for centuries from the main currents of American affairs. At the time of our visit feuds similar to the Italian Vendetta were prevalent in southeastern Kentucky, and "Redmond, the Outlaw," a daring "moonshiner," was the popular hero. "Moonshine" is whisky distilled by night in caves or "lonesome coves"; the high excise tax levied by the government on alcohol openly manufactured made "moonshining" profitable, and extirpation of the industry cost much money and some lives. For the mountaineers could never understand why "they couldn't be let to make a little good whisky out of their own corn."

"Redmond, the Outlaw"

The physical and mental apathy so characteristic of that folk we now know to be largely due to the diffusion of the hookworm — *Uncinaria*. Indeed, the sad plight of many of the factory children of the South is caused by *Uncinaria* rather than by overwork, though both are abominable. Recently the researches of Dr. Charles W. Stiles and his associates have made the nature of this pest a matter of general information, and have brought to light a simple remedy for apathy and anemia, the special ills of the "poor whites" — that is, the use of aromatic oils, of which thymol is the most efficacious.

Stiles's researches

Indigent strains

But *Uncinaria* does not tell the whole story; heredity too plays its part. Many indigent strains in our Southern mountains go back to English prisoners of debt unloaded at Jamestown, Virginia, in the seventeenth century; among these were a considerable number of persons not fitted for successful living anywhere. Yet it must be admitted that lack of education and want of vocational training are large factors in the social problem presented by the "poor whites," for in many of them flows the "blue blood" of England. And of course not all those banished by British "justice" in the days of the Stuarts were either debtors, paupers, or criminals. Some had won the disfavor of county squires by acts of poaching, or by independence of character. In the New World, however, most individuals of this type found means of self-extrication.

Into the mountains the negroes rarely penetrate. As a general rule, also, Kentucky hill people are too poor ever to have owned slaves; thus for generations the "valley folk" have been their traditional enemies. This fact appeared especially when sheriffs from the lowland attempted to suppress "moonshining," or when they tried to interfere in a mountain feud, a kind of sport limited only by its own rigid etiquette.

Valley folk

A record of our tramp was written by Clarence L. Goodwin, one of the boys. From it I may be allowed to quote the following, in spite of its very complimentary reference to myself, because of the light it throws on a phase of my success as a teacher:

> To most of us it gave a heartier appreciation of our leader. He led the charge on the milk houses and was always in front. He took his turn with the others, and was not too high-

REUNION OF CLASS OF 1883, INDIANA UNIVERSITY, JUNE, 1920

Front row, left to right: Goodwin, Corr, Minta Sims, Jordan, Swain, Juliet Maxwell, Adams

toned to go in swimming with them. But it was refreshing to be with a professor who could afford to dispense with dignity, who could adapt himself to us in any circumstances. He was at once our teacher, companion, and friend. Inwoven with the memories of this trip will ever remain his sympathy for us, his infinite patience, and his knowledge to which we never applied in vain.

[In June of this present year (1920), at the Centennial celebration of Indiana University, six of the twelve living members of the class of '83 met for a memorial breakfast at the fine Bloomington home of Ben F. Adams, one of their number, the others being Juliet Maxwell, Minta Sims, Joseph Swain, Goodwin, and Edwin Corr. At this reunion I was the welcome guest, and old experiences were there enthusiastically rehearsed.]

When college closed, I went abroad again, taking Swain and Curry as helpers — an arrangement which gave me considerable freedom for museum study, and which started Curry on his later career as camp manager in the Yellowstone Park and Yosemite Valley. In this he was very successful. No one, moreover, who visited the famous "Camp Curry" while it was still under his direction can ever forget his commanding presence and majestic voice, which at the rising hour reverberated through the valley, earning him the unique title of "Stentor of the Yosemite." He died in 1917. His widow, who (as Jennie Foster) was likewise a member of the geological party of 1883, and their son Foster now manage the camp, undoubtedly the largest mountain caravansary in existence.

Stentor of the Yosemite

CHAPTER ELEVEN

I

Tramps abroad

FOLLOWING in some degree the plan of our outings in the South, already described, I made in 1879, 1881, and 1883, summer excursions to Europe with groups of students.

Traveling as economically as possible, and living in third-class hotels, we indeed saw what my prospectus promised, "something of the real life of the people." A practicable type of bicycle having not yet been invented, and carriages being costly, we went largely on foot. We thus roamed over Holland, Belgium, and France, and sought out picturesque walks in Germany, like the one from Drachenfels and Rolandseck by way of Oberwesel to St. Goar. At one time or another, also, we crossed nearly all the Swiss mountain passes, high and low. We climbed the Breithorn, Alphübel, Monte Moro, Piz Languard, and Piz Corvatsch; and finally, in 1881, some of us attacked the Matterhorn. In 1881 Gilbert, Anderson, and William W. Spangler, a student, went as assistants, partly that I might have freedom to work in Natural History. In 1883, for the same reason, I had the help of Swain and Curry.

Swiss mountain passes

From the Swiss Alps we always walked down to Italy, not only by way of the conventional Splügen, Simplon, St. Gotthard, and Maloja passes, but also in wilder ways. Twice we tramped over the snowy Gries past the noble Tosa Fall to Domo d'Ossola, and once across from Saas-im-Grund over the Monte Moro by the side of Monte Rosa to Macugnaga

in the valley of the Po. But I shall not here attempt to recount our impressions, common to all enthusiastic travelers, of the cities of Italy: the charms of Florence and Verona, and the many smaller towns; the majesty of Rome; the scenic joys of Naples; the rare interest of Pompeii, and of Vesuvius, which we climbed at midnight while a mild eruption was going on; the delights of Capri, Sorrento, and Castellamare. Nor need I speak of Venice (which I have visited several times since) where the Rialto market furnished one of my finest collections of fishes. For every writer with eyes and soul has caught the glow of some part of Italy, and at the best I could only trail behind in the rear of a long procession. *In Italy*

But in view of my generous self-restraint I may perhaps be pardoned for reprinting a bit of verse on Florence, written just thirty years after my stay near the old, old bridge of Taddeo Gaddi, lovingly called in "soft bastard Latin" *Il Ponte Vecchio.*

To Melville Best Anderson[1]

I

Good friend, your message comes to me
Far-tost across a winter's sea,
And once again, as in a dream,
In your Etrucsan town I seem.
Once more in sunset's reddening haze
San Miniato's spire's ablaze.
The last long rays slow fade away
On thy gray hills, Fiésole!
Once more across these thirty years,
Rich with their shimmering hopes and fears,

[1] Then (1912) resident in Florence. Written in answer to his poem, *La Capponcina*, an appreciation of the city.

Beyond our Santa Clara's dales
I see your Arno's winding vales,
Gorged with the laurel-green and pine,
Slip from the "wind-grieved Apennine."
While still upon my garden wall
Thick leaves of Vallombrosa fall.

II

O regal city of the flowers!
What glory thine! What fortune ours!
Thou wert the home of deeds divine,
The chosen of the ages thine.
Thine, austere poets who could tell
The inmost truths of Heaven and Hell.
Thy grim old sophist pulled the strings
That shift the destinies of kings.
Thine, artists who on canvas wrought
The fairest forms that men have sought.
Thine, Cimabue's first approach,
Thine, Raphael with the silken touch,
Thine, sweet girl-faces that we know —
The loves of Fra Angelico.
Thine, Vinci, humanest of men,
His like no world shall see again.
Sculptors and painters come and go,
And still supreme thine Angelo!
Thine those who, mastering lands and times,
Wrote deathless themes in jagged rhymes.
Here in thy Duomo unafraid
Thy great evangelist has prayed.
There is no gift time can bestow
That thou, O Florence, dost not know!

III

Lorenzo's city, can it be
Thou livest but in history?
Are all the glories of thy race
Dissolved in sordid commonplace?
Seek'st thou on an unfriendly shore
The petty pillage of the Moor?

O Florence! thou shalt rise again,
Thy deeds once more be deeds of men!
Such real men the ages know
Crowded thy Ponte Vecchio —
Not stage-struck singers of the day
With "endless dirges to decay."
Even thy Ghibelline and Guelph
Lusted for power and not for pelf.

IV

Can Time's revenges farther go!
From Dante to D'Annunzio!
By poesy — O wondrous trade —
Camp braggarts into heroes made!
Such "thin red lines of heroes" flow
Where once trod Fra Girólamo!
What loftiest cause has fallen lower,
Down to Giolitti from Cavour?
To what base uses may we come
Catspawing to the Bank of Rome!
To turn away from storied lands
To wallow in the desert sands
And filch from sword-gashed Arabs, then,
The plunder of the Saracen!

V

No, Florence, no, this shall not be!
By thy majestic history,
By all thy lives of ancient worth,
By all the fairest forms on earth,
By all the memories we bear,
By Casa Guidi's casements rare,
By all that calls men's souls to thee
O'er snow-dashed Alp or storm-swept sea!
Thine was the spirit once which broke
Age-long obsession, which awoke
Old warring Europe from its strife
To thoughts of art, to acts of life.
Let "Africa's dried leaf" remain;
To thine own self come back again!

2

In 1883 we visited Norway also, admiring greatly its noble waterfalls and mountain lakes, delighting as well in the wholesome Northern people and the intimate ways of travel by *Stolkjaerre* and pony from station to station.

At Nordhjemsund

In Bergen we engaged a small steamer to take us up to Odde at the head of the Hardanger fjord. There we had expected to spend the night at Nordhjemsund in Nils Sandven's Inn, a little "starred" hostelry; but arriving at 10 P.M. — still bright daylight in the long twilight of the North — we found the place closed, and called lustily for the landlord. Awakened at last by our outcry, he thrust his head from the window, saying, "*Ikke Senge; ikke Plats*" — "No bed; no place." Meanwhile, however, the aroused villagers had become interested. The schoolmaster therefore proposed to take us three miles up the mountain to the Oeftshusfos — "Falls of the Uppermost House" — a cascade "behind which we could walk dry-shod." This offer we sleepily declined. Finally some one suggested that as they were all up and couldn't rest much longer anyhow, each should turn over his place for the rest of the night to one of the party. We thus made acquaintance with the Norwegian peasant bed, a wooden box holding a deep layer of hay and two or three blankets, the whole usually beset with fleas. Underneath, the family stores its winter supply of *Fladbröd* — great, thin, circular pancakes of rye folded while still warm into triangles — dry eating at any time. But there is always an abun-

dance of good milk, butter, cream, and cheese — *Gammelost*, a bitter goat's-cheese of strong odor being prevalent. Best of all Norwegian dishes, however, is the *Rödgröd* (red grits) of barley or oatmeal into which an abundance of berries (preferably blueberries) has been stirred; treated with solid clots of cream, this makes a delicious dish. Fine trout and salmon, moreover, abound in all Northern rivers. *"Gröd og Flöde" days*

In every Norwegian village one is sure to find two men of culture, usually with a clear and wholesome outlook on the world. These are *Praesten*, the pastor, and *Skolemesteren*, the teacher. One of my pleasantest recollections is that of a short stay at the *Praestegaard* — parsonage — at Jamsgaard i Vinje, midway in the uplands between Hardanger and Christianiafjord. At Jamsgaard we were entertained by *Praesten*, whose calm-eyed wife and charming daughters gave us a brief inlook on cultured Norway.

No European stock presents stronger human material than the Norwegian, and general familiarity with the best that has been written in their own tongue must be accounted a large factor in national culture. For the Danish-Norwegian language itself I have great respect. As resonant as the German, it has escaped the general Teutonic clumsiness and especially the senseless declension of article and adjective which is such a burden on German syntax, leading Darwin to speak of it as *"ver'dammt,"* — accent on the first syllable, all pronounced in true English style! *A sturdy race*

While in Skjaeggedal — "Shaggy-dale" — I met a young Norseman born in that wonderful wilderness of water and rocks. Once he had lived for a *In Skjaeggedal*

time in North Dakota, but in a level country of rich farms he couldn't thrive — "*Jeg konnte ikke trives der*" — and so returned to his birthplace. In the little school I was much pleased to hear the children sing the various national songs of Norway — some of which rank with the finest and most spirited of any race. Among them were Björnsön's

Ja vi elsker dette Landet

and G. C. Wolff's

Hvor herligt er mit Födeland
Det havomkranste gamle Norge!

Along the Norwegian fjords each farm stands at the head or foot of a lake, while nowhere on the road does one get away from the sound of waterfalls. The Skjaeggedalsfos, plunging directly into a mountain lake, and the wild Rjukanfos into a deep abyss, were the most remarkable of these cataracts. I say *were*, because my friend, Conrad Mohr of Bergen, formerly owner of Skjaeggedal, tells me that all of the high falls — the Vöringfos alone excepted — have been taken up and scenically ruined by German electric-power companies.

Wreck of Norway's waterfalls

In 1883 also, returning from Italy, a few of us spent a week among the picturesque extinct volcanoes of Auvergne in the heart of France. At the town of Issoire (Iciodorum of the ancient Romans) I passed an afternoon watching the operations of the *octroi* outside the city walls. By the gate stood a little shed where two or three soldiers in red coats with blue facings protected the industries of the town. Wheelbarrow loads of turnips, baskets of onions or artichokes, eggs, sheep, chickens — all

The octroi at Issoire

RJUKANFOS, THELEMARK, NORWAY

these paid their toll to the treasury as they went through the gate. A sou let in five cabbage heads or ten onions, twelve turnips, eight apples, or three bunches of artichokes; other things being taxed in proportion, the revenues needed to run the city were thus collected from the farmer folk of neighboring districts. The *octroi* accordingly serves as a sort of protective tariff on a small scale, whereby French and Italian towns generally attempt to throw municipal expenses on outsiders. Direct taxation of citizens is a barren expedient, and all great financiers from Cæsar to Napoleon gathered in from foreigners what money they needed.

A satire in economics

I made some notes, satirical, I fear, on the operation of the *octroi*. Five years later my wife Jessie urged me to work them up for the edification of my fellow citizens. Under the title, therefore, of "The Octroi at Issoire" this system was discussed by me in *The Popular Science Monthly* for 1888, the article appearing later in book form as "The Fate of Iciodorum." My satire took the guise of a parable likening tariff-protected America to Issoire, while Clermont, metropolis of the department of Puy-de-Dôme in Auvergne, is to be identified as England. Two general lessons were drawn: first, that history repeats itself if it be real history — that is, made up of causes and effects, not merely a succession of unrelated incidents; second, that national wealth is enhanced by taking money from the poor who waste it (which is why they are poor) and putting it into the hands of the rich and powerful who know how to make it grow.

This is a truism so obvious that one is astonished to hear it questioned, although some maintain that the first purpose

of state or city is not to make money, nor help anybody make money, but to see that all have a fair chance. If, however, the state be rich as a whole, what matter if the people be mostly poor? For the luster of wealth is reflected from the faces of all. It creates, as it were, an atmosphere of affluence, and where affluence is the other charms of life soon gather.

In an appreciative review the Manchester *Guardian*, fearing that all this raillery might be taken literally, observed:

> Sad experience shows that the ironic method needs, in our grave and literal country, to be marked in very plain letters.

Prophecy fulfilled

The reception in 1897 of "The Sympsychograph," [1] another bit of purposeful fooling on my part, attests the truth of this remark. But it is also worth noting that the imaginary events — surplus, deficits, trusts, strikes, rebates, ground floors, lockouts, and freeze-outs — related of Issoire actually occurred in the United States as features of forced industrial prosperity, *after* the original article was written. Such events I attributed to

> the improvidence of the workingman forestalling the prosperity sure to be his in time, but which normally filters to him through overflow from the hands of others.

3

Of all our adventures on the road, the most memorable was an ascent of the Matterhorn[2] on August 10, 1881 — an experience which I permit myself to

[1] See Chapter XXIII, page 599.

[2] Among the good books dealing with the Matterhorn (in French, Mont Cervin) are: "Scrambles among the Alps" by Edward Whymper, "Hours of Exercise in the Alps" by John Tyndall, "My Climbs in the Alps and Caucasus" by A. F. Mommery, and (especially) "The Matterhorn" by Guido Rey.

relate in partial detail, necessarily borrowing for the purpose from an old-time talk which to some of my readers may be painfully familiar.

A huge pyramid

Returning from Florence by way of Aosta, we had walked over the snowy desolation of the Matterjoch or Col de Saint Théodule from Val Tournanche to Zermatt. And ever before us as we mounted the green valley, above us as we toiled up the pass, above us everywhere — dark, majestic, inaccessible — rose the huge pyramid of the grandest of the Alps, its long hand clutching at the sky. The Matterhorn burns itself into the memory as nothing else in all Europe does. Three of its neighbors, Monte Rosa, the Weisshorn, and the Michabelhorn or Dom, as well as Mont Blanc, are indeed a little higher, but no other peak in the world makes such good use of its height. Most great mountains have white rounded heads, their harsher angles worn away by the long action of glaciers. The Matterhorn, however, is too steep for snow to cling to and no glacier has ever rounded its angles. It is therefore a creature of sun and frost, the wreck or relic of some ancient giant from which the strong gods of heat and cold have hurled down their avalanches of loosened rocks.

Gilbert's dare

We had wandered about Zermatt for a few days, and all the while the mountain hung above our heads and dared us to come. And so one evening as we watched the moon slip behind its towering obelisk, Gilbert said to Beach: "We must do something big before we leave this place. Let's go up the Matterhorn!" And Beach replied: "All right, I'll go if Jordan will."

But Jordan held back, knowing that it would be

a hard road for a heavy man to travel. Besides, the tragedy of the first climbers was fresh in his mind. Then Gilbert said: "You have talked and talked about mountains, but you have never done a single big thing among them, and now it's time you did!" I remembered, moreover, that several earnest scientists had attempted to make the ascent. Tyndall, for instance, had thought it worth while to try again and again, year after year; and so had my Italian namesake, the geologist Giordano. So at last I fell into line, and seeking out "John the Baptist" — Jean Baptiste Aymonod — who had led us from Val Tournanche, engaged him as chief guide, and arranged to get off before morning. We then strolled pensively through the little graveyard to the tombs of Hadow, Hudson, and Michel Croz, the unfortunate associates of Edward Whymper on the first ascent in 1865.

John the Baptist

The party as finally made up consisted of Anderson, Gilbert, Spangler, William E. Beach (also a student from Indiana University), Walter O. Williams of Indianapolis, and myself. Our guides were five in number — "John the Baptist," a young man of remarkable strength, skill, and loyalty, afterward well known and appreciated in the Pennine Alps, Victor Macquignaz, François Bic, Daniel Bic, and Élie Pession — all from Val Tournanche, a French colony within the confines of Italy.

Starting out

When we started out shortly after midnight, the moon was full and hung gracefully over the south shoulder of the mountain, and the sky was without a cloud. Up through dark fir forests we went, by the side of a foaming torrent, then over flower-carpeted pastures and steep grassy slopes dominated

by the great pyramidal mass, the glistening snows of the Dent Blanche and the Breithorn flanking it on either side. At sunrise we reached the cabin, a fairly comfortable shed at the foot of the peak itself. Within, the walls bear inscriptions in many tongues. One reads as follows:

> Little Matt Horner
> Sat in the corner,
> And vowed he would not be climbed;
> We tried it, you know,
> But found so much snow
> We very politely declined.

The Bergschrund

After a brief rest we now set out on a long and most trying climb, the many details of which I need not here repeat. But far below us, even from the very start, yawned the deep abyss of the "Bergschrund," a chasm produced by the slipping away of the Furggen Glacier from the mountain. Tied together in three groups, about ten feet apart, we moved only one at a time in each group and not at all until the preceding man had secured a good foothold, the constant question of the guides being "*Êtes vous bien placé?*" — "Are you well fixed?" For not to be so even for a moment was a menace to one's associates.

Dangling ropes

The steepest pitch of the whole ascent is just below the tiny refuge hut near the shoulder, which I describe later on. Down the face of that seventy-foot precipice dangled a rope made fast to an iron staple above, but swinging loosely below so that one could climb hand over hand by resting his toes on projecting irregularities of the mountain side. That ropes were placed in difficult stretches along the way we already knew; still we had hardly ex-

pected to be suspended over infinity! John as usual went up ahead as far as his tether permitted, then called to me to follow. The rope was white with frost and I thought that I could manage better with gloves. This was a mistake, for when I had to trust my full weight I felt myself slipping downward, at first slowly, then more swiftly. It was not a pleasant sensation, though I hoped to stop when I reached the knot at the end of the rope; otherwise we might all form the nucleus of a rock avalanche moving toward Zermatt. The knot held, however, and gloves off, I tried again, this time with better luck, after which the others followed successfully.

After a few moments' rest in the hut we next passed up and along the sharp *arête* or angular edge of the mountain, thereby avoiding the risk of falling stones. This at one place became exceedingly narrow, and on the north side, as we inched along, we looked down a precipice of four thousand feet to the Tiefenmatten Glacier. From a cliff not far above us at that point, Whymper's companions fell the whole distance to their death. I asked John about it, but he would not talk. "I was not there," he said.

The greatest Alpine tragedy

Clouds now gathered suddenly, enveloping us in a gusty snowstorm and drenching the valley with rain. We lost sight of the earth altogether; everything below was a fathomless abyss. As we turned along the more level shoulder toward the east face, Aymonod called my attention to a heap of stones; "*Voilà le châlet de Monsieur Vimpère*," his version of "Whymper." The cliffs which now confronted us were distressingly difficult even with the aid of

MATTERHORN FROM NEAR SCHWARTZSEE (LAC NOIR)

the dangling ropes, almost impassable without them. Yet some one carried up those ropes and the iron staples which hold them. That man was John the Baptist. They constitute a part of "*l'échelle Jordan*" — the Jordan Ladder — so named for Leighton Jordan, an English mountaineer on whose generous initiative they were bought and placed.

L'échelle Jordan

The "ladder" once ascended, the few hundred feet remaining presented an easy slope on which our sole difficulty was the violent wind. At noon we had reached the summit, a narrow crest about twenty feet long and from one to three feet wide rising to a point at the southern end. Only four of us could safely squat on it at once. It was as cold as midwinter. Snow fell thick and fast. The wind, moreover, whipped us in savage whirling gusts so that we dared not rise to our feet lest we be literally blown away and make a strange figure sailing over Italy tied together with a rope. Most of the time we could see nothing; but occasionally a break in the storm would give us a green glimpse of the Tournanche village of La Breuil two miles below; and once the Dent Blanche disclosed her snow-crowned head. Writing our names on a card we placed it in an anchored bottle, the Matterhorn's register of guests. Victor then broke from the tip of the mountain a fragment of the hard, dark green, brittle hornblende of which it is made, a souvenir which I still possess, and we started back.

On the crest

Halfway down to the hut Gilbert was suddenly struck by a rock weighing a hundred pounds or so, which had slipped from under the feet of the last man and gone howling down the mountain side. He thus received a savage gash across the forehead

A frightful accident

and was knocked senseless out of our sight, though still held by the rope. We were all paralyzed for an instant, but John soon rushed down to me that I might give rope to Victor, who then hurried to Gilbert's rescue. Happily his steel-brimmed hat, sliced by the sharp edge of the rock, had offered a momentary resistance, and so saved his life.

Victor rescues Gilbert

We now moved very slowly, Victor half leading, half carrying Gilbert, dazed and blinded with blood but still courageous. "*C'est un homme fort et brave*," said John. As we descended, the treacherous character of the Swiss face became increasingly evident and alarming. As a matter of fact, the whole outer coat of the mountain is loose, scarcely a rock anywhere being firmly attached. For into all the joints of the strata, water from melting snow finds its way, to freeze at night and thereby widen the joints so that the outer blocks, large and small, are daily pushed toward the edge. Thus nothing is stable, and each year the Matterhorn offers everywhere a new face to the weather. But the dip of the strata being strongly to the south, on the Swiss side the loosened blocks remain poised on uptilted edges until thrown off, when the fall of a single one will start a regular shower below. In the afternoon the danger is most acute, the ice cement having thawed and released the débris. On the Italian front, on the contrary, a rock drops as soon as loosened and so without starting a volley.

A man strong and brave

Showers of stones

Working along, we soon heard a terrible uproar, and three or four rods away saw an immense avalanche of rocks — a dozen of them as large as a wagon, with hundreds of little ones yelping in the rear. "*C'est une montagne terrible!*" exclaimed

John. Pession, who had been in mortal fear ever since the accident, was worse than useless for the rest of the day. "You must pardon him," said John; "he has a wife and children in Val Tournanche."

The refuge hut

At six o'clock, after hair-breadth incidents, we reached the hut and made Gilbert lie down on the few armfuls of hay, where he soon went to sleep. John now decided to remain there over night with Victor, Spangler, and myself. We five thus took lodgings 12,256 feet above the sea. The others, not without adventures, made the cabin in safety.

Our refuge was a sort of stone den six feet wide by ten long and five high on the inner side, crowded on a narrow flat ledge between a protecting pinnacle and a precipice, the only possible place anywhere about. Three coarse blankets, a little bench, a tin bucket, and a basket of shavings comprised the equipment.

A frosty couch

John sent us immediately to bed — one on each side of Gilbert to keep him warm. But nothing kept us warm. Our clothes were wet, and my off side abutted on a frosty rock which carried away heat faster than I could generate it. John and Victor lay on the bare ground. The snow thawed on the roof and little streams of sooty water trickled over our faces. All night long our patient dreamed of climbing mountains. Once he shouted, "*Attention! Attention toujours!*" At another time he called out: "Here we will stop walking and take wheelbarrows." At intervals the guides kindled a fire of shavings for a drink of chocolate all around.

The storm cleared early in the night, and a sharp, cutting cold penetrated our fastness. From time

to time the mountain snapped as the water froze in its joints, and occasionally we heard the loud roar of rock avalanches. In the morning it was crystal clear. Above and below, the whole majestic Matterhorn mass shone white with new-fallen snow or glistened with frost. Over the deep valley of Zermatt clouds hung white and heavy, setting us off, as it were, in a glittering upper world. Far in the distance rose the giants of the Bernese Oberland; nearer the Dent Blanche, the Weisshorn, the three peaks of the Mischabel, and, to the right, the long crescent of the Breithorn, Zwillinge and Lyskamm, which culminates in Monte Rosa. It was the sight of a lifetime.

A majestic outlook

Our invalid awoke cold, disgusted, and impatient, and his swollen eyelids looked each like a ripe plum. We now decided that he must go down to Zermatt with John and Victor, while Spangler and I should wait until they came back for us — which might be the next day, and might be never! But, as the Jester said in the forest of Arden, "travelers must be contented."

Shortly after they left, however, we heard shouting from below, and soon the two Bics appeared, having come up from the cabin where they (and the others) had spent the night. We four then began to descend very slowly, for going down was far more trying even than going up. Once when François by accident hit me in the eye with the head of his alpenstock, and I said nothing, he remarked to Daniel: "*Quelle bonne disposition!*" At this I smiled and again said nothing.

Another compliment

About noon the seven of us had all reached the cabin, where we found the doctor from Zermatt

and four able-bodied fellows with a sedan chair for Gilbert. There were also several Val Tournanche men who had got wind of our trouble and come up over the Matterjoch, bringing food, wine, and a rope. For a moment I thought that we might have to fee the whole population, but when they saw we were safe they melted away. Pure kindness had brought them, and we acknowledged their fine human friendliness in the same spirit. That incident typified one reward of high mountaineering as expressed by Edward Whymper, who writes gratefully of

Good Samaritans

> courtesies received from strangers' hands, trifles in themselves but expressive of that good will which is the essence of charity.

Our welcome in the village was most enthusiastic, and the *Matterhornbesteiger* were the heroes of the hour. In the foreign chapel prayers were offered for the Queen of England and for President Garfield, then lately stricken down, and thanks were given for our safe return.

I afterward received from "John the Baptist" the following letter, which may be of interest as the composition of an unlearned but very intelligent man. The sentence construction is generally correct, but the words, as will be noted, are mostly spelled by ear — not an easy thing to do in French.

A letter from John the Baptist

Valtournenche, le 16 Decbre, 1881

Monsieur Jordan:

CHER MONSIEUR: — J'ai recus votres lettres le 15 courent, laquelle a ete pour moi un grand plaisir, premierement en aprenant que M. Gilbert etait parfaitement geri. Je regretais toujours de ne pa vous avoir prie de me donner de ses nouvelles

en arivents dans votres patrie. Je vous prier de le saluer bien de ma part, et en meme tempts le remercier du cadou que vous m'avez remis en son nom a Sass. En second lieu je vois avec plaisir que vous ne vous etes pas contenter de me payer largement mes servisses de l'ete passe. Vous voulez encore travailler pour me donner une renomee parmi les Americains. S'est plus que je ne merite. Je vous en remercie inniniment. Je regrete boucoup d'etre dans l'impossiblite de pouvour vous en rendre le reciproque. Je ne peut faire autre chose que de vous soueter des jours heureux plain de Santees et d'Amour pour les Alpes Pennines. Je vous prie de saluer toutes l'honorables compagnie que vous aviez avec vous l'ete passe. Maquignaz et les Bics vous font ses salutations.

Recevez une bonne poigne de main de celui qui voudroit etre longtents

Votre serviteur,
Aymonod Baptiste

First ascents of the Matterhorn

The Matterhorn was the last of the Alpine peaks to be climbed, being long thought absolutely insurmountable. After many unsuccessful attempts, it was finally conquered in 1865 by Edward Whymper and his companions, Douglas, Hudson, and Hadow, led by the famous Chamonix guide, Michel Croz. But on the descent, near the highest *arête*, victory was suddenly turned to mourning when a breaking rope precipitated four of the party into the abyss. Lord Douglas' body was never recovered; the others lie in the quiet cemetery of Zermatt.

Three days later Jean Antoine Carrel, the most noted guide of Val Tournanche, led a company of his fellows to the top from the Italian side, steeper and more ragged than the other, but free, as I have said, from rock avalanches. In 1879 A. F. Mommery, an English mountaineer, made the ascent up the apparently utterly inaccessible northwest (Zmutt) angle, a forlorn area of merciless rock through which

REFUGE HUT, 1881

Taken with telephoto lens

(according to a local saying quoted by Guido Rey) "God passes only by night." A number of others have since followed him.

Modern aids

Our course was essentially that taken by Whymper, the point being to keep as near as possible to the saw-edged northeast angle out of the reach of volleys of stone. Within recent years the trip has been made easier by better accommodations and various devices. A good hotel now stands near the Schwarzsee or Lac Noir, a tarn which lies two thirds of the way up to the cabin. Wire ropes, I understand, have been installed where needed, and the whole course sways more closely to the northeast ridge.

The ascent by my party was a mad business at best; mere amateurs in high mountaineering, we were not in the Matterhorn class. Personally I have always sympathized somewhat with an old Indiana farmer. Arriving late at my lecture, he took a front seat near the teacher and listened with much interest. At last he could stand it no longer, and in a loud whisper asked: "What the devil were they up there for?"

4

Fishes again

In connection with my early European tours, I spent as much time as possible studying at the Musée d'Histoire Naturelle located in the famous park, Jardin des Plantes, in Paris, and at the British Museum in London, besides doing some work in the Universities of Berlin and Copenhagen. I thus became acquainted with many of the leading European zoölogists, and especially with all who had

devoted themselves to fishes. Of these, four were particularly helpful to me — Albert Günther, Léon Vaillant, Christian F. Lütken, and Franz Hilgendorf; later also, Franz Steindachner of Vienna, though him I did not meet until 1910.

Günther

Dr. Günther, the best known of them all, was born in Germany in 1830, and educated in Berlin, Bonn, and Tübingen for the Lutheran ministry. That career proving little to his taste, he then took up the study of medicine, and found his way across the Channel to St. Bartholomew's Hospital in London. But another and still deeper interest was to dominate his life. From early boyhood he had been fascinated by the problems of animal structure, beginning his researches, as he once told me, with the dissection of worms. Afterward at Tübingen, where his room overlooked the river, he found great enjoyment in the study of fishes caught from out a window. So, finally abandoning medicine as previously he had theology, he became curator of fishes in the British Museum, where the Keeper, John Edward Gray, assigned to him the preparation of a descriptive catalogue of the ichthyological collections. With the eight volumes of this great work, the foundation of modern Ichthyology, he occupied himself for the twelve years from 1859 to 1870, inclusive, putting in on the average fourteen hours a day from pure love of the work. Afterward, as Keeper himself, he remained in service until the late '80's, when the natural history collections were removed from the old building on Great Russell Street to the new one on Cromwell Road in South Kensington. He died in 1914, at the ripe age of 84.

Critic and friend

Günther had the reputation of being a crusty critic, sometimes needlessly severe on the slips, real or apparent, of his contemporaries, not even sparing the masters, Dr. Pieter Bleeker of Java, most industrious of field naturalists, and Dr. Gill, most discriminating critic of the literature of science. But toward me he was always kind and considerate, as well as to my students, some of whom (Eigenmann and Edwin C. Starks especially) used to go to see him whenever they were in London. In 1881 he made an effort toward keeping me permanently with him as assistant curator of fishes. At the time, however, he was not able to secure the necessary funds, and afterward Dr. George A. Boulenger of the Brussels Museum accepted the position in question. I have often thought, though without regret, how different my life story would have been had I settled down in the British Museum. In 1913, on the occasion of my last visit to Dr. Günther at his home in Kew Gardens, I found him almost blind but still intellectually active and interested.

International Fisheries Congress

[In 1883, the first great International Fisheries Congress was held in London. Being then at work in the Museum I took part in the meetings, also making (at Baird's suggestion) an exhibit of all my fish publications, nicely bound in red morocco. These earned me the highest award, a gold medal, with a large engraved diploma signed by Albert Edward — then Prince of Wales — president of the Congress. As this was the first and the most important of several more or less similar honors, I venture to record it here.]

While in England we frequently traveled by train for an hour or two in the morning, usually to the southwest; then getting out almost anywhere, we walked on until luncheon time, after which we took another railroad run, followed again by a walk toward evening. In this pleasant, intimate fashion (to be highly commended) we beat our way to Canterbury, Hastings, Winchester, Salisbury, and on to Devon and return. At one time three of us, A. M. Braislin, a divinity student from New York, six feet five, Swain, six feet four and robust in proportion, and I, a modest six feet two, walked from Dover to Canterbury. We made some impression on the Kentish folk. "Just look at those men!" I heard some one say. And a child, interested in comparative theology, asked her mother: "Is that man as big as God?"

A walk across Kent

On Charles Darwin, the master of masters in Zoölogy, I had not ventured to call during my first visit to London, and his death in 1882 robbed me of the privilege of ever meeting him face to face. But the following year I made a special pilgrimage to his fine old home near Down. Parslow, his butler, chatted freely:

Parslow on Darwin

For the first twenty years after Mr. Darwin's return from South America, his health was very bad, much more so than later. He was an early riser, and usually went out for a walk all around the place before his breakfast, which he took alone. That over, he went to his study to write until the rest of the family had finished their own meal. Mrs. Darwin now came in and read to him for half an hour while he lay on the sofa. Afterward he wrote till noon, and again after luncheon for a while. Then he and Mrs. Darwin used to go to the bedroom, where he rested and sometimes smoked a cigarette while she again read aloud. He liked stories with happy endings.

Sometimes there were eighteen or twenty young Darwins or Wedgwoods in the house. Four-in-hand coaches used to come down from London. Mr. Darwin liked children. They didn't disturb him in the least. There were often twenty or thirty pairs of little shoes to be cleaned of a morning, but I assure you there were always plenty of servants to do it.

The gardener used to bring plants into his room often of a morning, and he used to tie bits of cotton to them, and try to make them do things. He used to try all sorts of seeds. He would sow them in pots in his study. . . . He was a very social, nice sort of a gentleman, very joking and jolly indeed; a good husband and a good father and a most excellent master. Even his footmen used to stay with him as long as five years. They would rather stay with him than take a higher salary somewhere else. The cook came there while young and stayed till his death — nearly thirty years. *A good master*

There were a quantity of people in Westminster Abbey when he was buried. I and the cook were among the chief mourners and sat in the Jerusalem Chamber. The whole church was as full of people as they could stand. There was great disappointment in Down that he was not buried there. He loved the place, and we think he would rather have rested there had he been consulted.

The landlord of the local "George Inn" was also communicative:

All the people wished to have Mr. Darwin buried in Down, but the Government would not let him. It would have helped the place so much, for it would have brought hosts of people down to see his grave. Especially it would have helped the hotel business, which is pretty dull in winter time. Mr. Darwin was a very fine-looking man. He had a high forehead and wore a long beard. Still, if you had met him on the street, perhaps you would not have taken much notice of him unless you knew that he was a clever man. *Not without honor*

Several persons had a good deal to say of Darwin's extensive and judicious charities. During the

time of a water famine he used to ride about on horseback to see who needed water, and had it brought to them at his own expense from the stream at St. Mary's Cray. To Mr. Parslow he left a life pension of fifty pounds a year, and the rent of the handsome "Home Cottage" in Down. Yet at Keston, three miles away, the landlady of the "Greyhound" had never heard of Darwin until after his death. "There was then considerable talk of his being buried in Westminster Abbey, but nothing was said of him before."

Léon Vaillant

In my work at the Jardin des Plantes I was brought into close relations with Dr. Vaillant, the ichthyologist of the museum, a versatile and exact student, the author of many important papers, especially a monograph on our American "Johnny Darters." I have very pleasant recollections of my work with him and Firmin Bocourt, his associate of those days, as well as with the faithful museum helper, Alexandre Thominot, who used to prepare specimens and bring bottles and books for my work. Once Thominot said: "It is remarkable how you Americans travel. As for us, we have no need to; we are at the center all the time." As I write, I learn from Dr. Jacques Pellegrin, successor to Vaillant, of the latter's death in 1915, at the age of eighty-one.

French naturalists while at work wear the blue blouse of the peasant, a garment I also cheerfully assumed. One day an American of some prominence at home in Pittsburgh came into the room and, seeing me in the native costume, asked through his interpreter if I had ever heard of Jordan, a fish expert in the United States. I had, and it was pleasant

to hear him given a good reputation by the friendly visitor.

The museum being closed on the aggravatingly numerous saints' days, I often used to buy a ticket to any neighboring town, no matter where, and then tramp on to some other point. Once a friend and I "descended" at the village of Île Adam, a singularly pretty place about twenty-five miles north of Paris. Stopping for luncheon at a small café, we bought some chocolate, which we asked to have prepared for drinking. But our hostess had no notion of it as a beverage, and we finally made it ourselves in the kitchen. There the good woman held up her hands in surprise at the fragrant liquid we evoked, and remarked: "*Chaque pays a ses mœurs.*" Although a million people within the same Department made their first morning meal of bread soaked in chocolate, she knew the article only as a popular sweet. *Ile Adam*

As a matter of course, I frequently visited the Comédie Française, to me the most attractive as well as the most instructive of all theaters. At that time Coquelin and Got were leading figures, and with them a young woman whose fame has since extended far. Sarah Bernhardt I first saw as Doña Sol in Victor Hugo's "Hernani"; and I distinctly recall the wonderful power and passion which she threw into the sentence, "*Tu es mon lion, superbe et généreux.*" *Bernhardt*

In Copenhagen I spent a week or so at the University as the scientific guest of Charles Frederik Lütken, the accomplished professor of Zoölogy. No institution on the Continent impressed me more favorably than that one of the North, and were it

European laboratories

not that the Scandinavian languages are spoken by so few, the Universities of Copenhagen, Christiania, and Upsala might well have been preferred by the American student to those of Germany. Lütken, a strong, handsome, stately man of friendly nature, did admirable work on fishes, especially on the young of the free-swimming oceanic forms which he called "*Spolia atlantica.*"

Passing on to Berlin, I was given the privileges of the university laboratory of big and capable Dr. Hilgendorf, who had been one the early professors in the University of Tokyo. Hilgendorf was to me a congenial spirit, though I found little else congenial in the heavy and pretentious city. Then, as since, its most striking feature was to be summed up in the ubiquitous sign, *Strengstens verboten* — the essential barrenness of life in Berlin being obscured by elaborate regulations and official self-complacency.

Treitschke

At this period we heard much of Treitschke, a professor of History with a great following both in the university and in the city. Advocating the "blood and iron" of Bismarck's philosophy, he attracted great crowds to his lectures, which fell in line with the nationalistic feeling so grossly stimulated by the victories of Metz and Sedan. It was truthfully said that Treitschke taught as history what Bismarck wrought into action. Moreover, he demonstrated to the satisfaction of his audiences that the German race was superior to any other; that its adjustments — social, educational, political, and military — were absolutely perfect; furthermore, that the Prussian idea must dominate Germany and through Germany the whole civilized

world — or at least that part which (having Teutonic blood) was fitted for the ideals of *Kultur*.

Kultur

This doctrine involves in brief (1) the conception of the State as an ideal entity existing above and beyond the people, superior to all questions of right and wrong and floating in a moral vacuum, the emperor being by divine right its administrator and mediator; (2) the factor of *Kultur*, or supreme discipline, whereby all personality is merged into the service of the State, the individual being merely a "brick in the wall of an edifice he cannot see and does not understand"; and (3) the doctrine of Social Darwinism, or supreme necessity of conquest, a perversion of science by which it is imagined to be the duty as well as the right of a strong nation to absorb or to subdue its smaller, more backward or more peaceful neighbors, wreaking on them its own *Kultur*,[1] as well as subordinating them to its own advantage. Ideas of this kind stood as a necessary philosophical basis for the acceptance of absolutism by the German mind, and Hegel and other German metaphysicians were not slow in developing a complete theoretical system to accord with German politics.

Among other things, Treitschke laid stress on the fact that all Germany's territorial gains for a century had been "won by Prussia, and by the sword." He did not, however, foresee the time when all these would be lost by Prussia, and again by the sword! In Hilgendorf's laboratory we held "the propagandist," as Ranke, his eminent predecessor, called him, in low esteem, and I myself never went to hear him.

One summer I also spent a little time with Dr. Decio Vinciguerra, the most eminent of Italian ichthyologists, then director of the Museo Civico at Genoa, later of the Aquario Romano in Rome. At

[1] The elements of "Kultur" were conceived to be "*Dienst, Ordnung und Kraft*," "Service, order and power," the first and last resulting from an order or discipline enforced from above.

Oceanography

the time of my visit, Vinciguerra was engaged in the study of deep-sea fishes, spoils of the dredging expeditions of Albert of Monaco, a prince whose deep interest in Oceanography has given him a leading place among students of that science. Robert Collett, the distinguished ichthyologist, professor in the University of Christiania, to whom Prince Albert later entrusted his findings, I never met, as he was absent when I visited his laboratory. But we long maintained a friendly correspondence.

CHAPTER TWELVE

I

Destruction of Owen Hall

On our return from Switzerland to Paris in September I learned with dismay that "Owen Hall," the old science building at the University of Indiana, had been struck by lightning and burned with nearly all its contents,[1] including my own costly library and collections, besides the manuscript of a considerable volume by "Jordan and Gilbert" on the fishes of the West Coast of Mexico and Panama. With the book had also gone the material on which it was based, most of it not to be restored until the later expeditions of myself to Mazatlan in 1895, and of Gilbert and Starks to Panama in 1903. This experience taught me a lesson, which was to publish all new matter at once, leaving its coördination for a later period.

Gathering a new library

On hearing of my losses, and forestalling the receipt of the insurance money — $7000 — I at once began to restore the library. I then found, like so many naturalists before me, that the open-air stalls along the left bank of the Seine were a rich mine of second-hand books. Later I secured a large part of the library of the distinguished naturalist-philosopher, Alphonse Milne-Edwards, and in time

[1] The greater part of the Owen collection of fossils (being on the first floor) was saved though very much mixed up, specimens having tragically wandered from their labels. This confusion was finally adjusted by Dr. Marcou, who came from the United States National Museum for that purpose, a series of duplicates being then transferred to Washington in return for the great service rendered.

came to have a much more valuable collection than before. It contained many thousand titles on fishes alone, and was finally presented to Stanford University.

On the Fish Hawk

On my return to America, Baird offered me for a short time the Fish Commission steamer *Fish Hawk*, on which I went out from Woods Hole around Marthas Vineyard to gather the nucleus of a new collection. The *Fish Hawk*, it may be explained, had replaced the little *Blue Light* of 1874, to be itself later superseded by the finely equipped and commodious *Albatross*. My trip was very successful and enabled me to make a new start, although I never afterward maintained a collection of my own, regarding all duplicates assigned me from any source as the property of the institution I represented. Of later accretions, the first series went mainly to the National Museum, the next to Indiana or Stanford, while duplicate sets were usually reserved for London, Paris, and Vienna.

The fire was a hard blow for the University, the better one of its two large buildings having been destroyed and the necessity of reconstruction being very pressing. As the old campus was far too small, the trustees now decided to abandon it and turn the remaining building over to the preparatory school.

The new campus

They accordingly bought a large forest of maples, a beautiful and stately grove occupying a gently sloping hillside just east of town and forming a site of special charm. Two brick buildings were hastily constructed, the larger one being named Wylie Hall, the smaller — assigned to me — Owen Hall; in due season, also, other halls were built and dedicated to Kirkwood and Maxwell.

In December, with the help of a student, William H. Dye of Indianapolis, I undertook explorations at Cedar Keys, Key West, and Havana. In crossing northern Florida by rail from Jacksonville on the Atlantic to Cedar Keys on the Gulf, the long train, made up of freight cars with a passenger coach attached, parted quietly in the middle so that we were left far behind while the oblivious engineer went gayly on to his terminus. We thus found ourselves marooned for some hours in the swamps which border the vast half-submerged area of the "Everglades." Not to lose the chance, I used my umbrella as a net to "fish for *gambusinos*" in the forest pools.[1]

Marooned

But the trip as a whole yielded rich booty, for Key West[2] has the best fish market in the United States. There food fish in great variety are brought in alive in the wells of specially constructed boats and killed as the purchaser demands, a method which ensures their being fresh but does not accord with that of certain Buddhist fishermen in Japan. As "conscientious objectors" to the killing of any living thing, they haul their catch out on the bank and leave it to the option of the fish to live or die.

Key West

Key West at the time of my visit was an extremely isolated little city on one of the outermost of the white islands built up from the wreckage of broken

[1] To the commonest fish there, a minute viviparous top minnow, Dr. Felipe Poey gave the scientific name of *Gambusia*, derived from the Spanish phrase, "*pescar para gambusinos*," "fishing for *gambusinos*" — that is, catching nothing. In justice, however, it should be added that this tiny creature has proved to be the greatest of mosquito devourers. It was therefore carried by my student, Alvin Seale, from Galveston to Hawaii, where it has rapidly multiplied and whence it has been introduced into Formosa and the Philippines.

[2] Originally *Cayo Hueso*, Bone Key.

Mangrove jungles

corals which grow outside the reef. The formation of such islands or "keys" (literally quays or wharves) is helped on by the mangrove — *Rhizophora* — for, once established, this vigorous shrub "walks" farther and farther into the sea. Its method of progression is by vertical branchlets from the limbs, which take root in the bottom and form a continuous tangle, catching whatever débris the waves may bear, coral sand especially. About Key West are small keys in process of formation — jungles of mangrove half covered at high tide but appearing as little muddy islands at low waters. In their thickets swarm innumerable tiny fishes, especially the young of the common "Mangrove Snapper" — *Neomænis griseus*. The whole region, indeed, is very rich in fish life, offering an amazing number of kinds, many of them in great abundance. In our first haul of the fine-meshed "Baird seine" adapted for such collecting, we obtained seventy-five different species.

The fishermen, chiefly English, came from the Bahamas; the other citizens had mostly fled from farther north to escape snow and ice. In general we found everybody intelligent and appreciative of our mission.

A rattler overboard

At Key West I saw a small rattlesnake swimming in the sea. This was an occurrence so unusual that I gathered it in; it proved to be a "prairie rattlesnake" or "massasauga" — *Sistrurus catenatus* — a little beast with few rattles but a mean disposition. Later I saw a boatload of Louisiana hay from which it had undoubtedly fallen overboard. The incident suggests a digression on the topic of venomous serpents in general, and of rattlesnakes in particular.

Bad neighbors

The first and biggest rattler I ever saw at large, and the only one by which I was ever placed in danger, I came upon in 1878 near Falls Church, Virginia, not ten miles from Washington. Kneeling to drink at a fine spring in the woods, I suddenly caught sight of the reptile — *Crotalus horridus* — coiled on the moss just above the spring, in excellent position to strike. Since then I have met a good many rattlesnakes of two other species, *Crotalus oregonus* in the foothills of California, *Crotalus lepidus* in the prairie-dog holes of New Mexico and occasionally elsewhere in the South and West.

Other venomous American snakes are the Copperhead — *Agkistrodon mocasen* — the Black or Water Moccasin — *Agkistrodon piscivorus* — and the Coral Snake or *coralillo* — *Micrurus fulvius* — of Mexico.

The Copperhead is a small, rattler-like reptile — devoid of rattles, however — with the head of a bright copper color. It frequents damp thickets along streams. It is rare in the North, though I once caught one in Bean Blossom Creek near Bloomington; in its body were four small fishhooks, representing probably as many boys who had hurriedly parted company with it.

The Black Moccasin, larger than the Copperhead and without the red, is found in dark wooded streams of the farther South. This is very venomous, but not often "met up with." Meanwhile the common, harmless but ill-tempered, rough-scaled water snakes — *Natrix* — which abound along all Southern rivers, are all commonly called moccasin and held in dread by the inhabitants; and the blow snake or spreading adder — *Heterodon* — an evil-minded and demonstrative serpent without fangs, also common in the South, is everywhere regarded as dangerous.

King Snake and Coral Snake

The vicious Coral Snake, brilliant red belted with black, is colored almost exactly like the handsome and beneficent King Snake of the Sierra Nevada — *Lampropeltis* — so useful a destroyer of rattlers. The *coralillo's* fangs are fixed, those of the rattlesnake tribe depressible, but erected in striking. At Xico near Jalapa I once found a *coralillo* which had just been killed. Determined not to lose an interesting specimen, I carried it through the village streets, thereby attracting much attention.

On the west coast of Mexico lives *Pelamis*, a small brown and yellow sea snake with an oar-shaped tail, known to be exceedingly venomous. But "the sea serpent" is of a very different type; when not of purely alcoholic origin, it is usually the great oarfish — *Regalecus* — which swims at the surface, lifting above the water the red mane of its dorsal fin.

The Gila Monster

Speaking of venomous reptiles, Myron Reed once sent to me in Irvington a Gila Monster — *Heloderma suspectum* — from Arizona. This big, warty, toad-like lizard of very repulsive appearance is the only four-footed creature which is actually venomous, poison lurking in its saliva. At that time (1875) there was no definite knowledge of its true character, — only a suspicion entertained by Cope, who named it, — and I freely showed the animal to visitors. Though apparently sluggish, it escaped from the house and could not be found; but as no fatalities ensued, it probably perished in some crevice.

2

In Havana

In Havana I was impressed by the fluctuations of Cuban paper currency, which rose with the frequent rumors that the island was to be purchased by the United States. Still more noticeable was the universal prevalence of the lottery, a special curse of most Latin nations. All day long tickets were hawked about on the street, and the many parrots took up the cry of "*doscientos, trescientos cincuante cinco*," and so on. Many of the streets are named for the virtues — "*Industria*," "*Verdad*," "*Piedad*," and the like; but most of those qualities, especially industry and truth, were little in evidence among the people at large. A hand-to-mouth existence under the corrupt and often brutal Spanish rule probably had much to do with the general lack of integrity. And I met individual citizens of the finest type, especially members of the staff of the

Royal University of Havana. Of these scholars, Felipe Poey was then the acknowledged dean. My acquaintance with him I value as the most interesting feature of my visit.

A Cuban naturalist

The child of a French father and a Spanish mother, Poey was born in Havana in 1799, and was therefore eighty-four years old at the time of our meeting. As a student of fishes he had worked with Cuvier in the Jardin des Plantes about 1829, when the second edition of the latter's great work, "*Le Règne Animal*," appeared. In 1842 he was appointed professor of Zoölogy in the University of Havana, which chair he held, either in active service or as emeritus, until his death in 1891.

A man of large stature, with fair hair and gray eyes, by no means typically Spanish in appearance, he contrasted strongly with his fellow Cubans, and he used to say: "*Comme naturaliste je ne suis pas espagnol—je suis cosmopolite.*" He had a most happy temperament, with a manner peculiarly cheery and genial. Simple, direct, unaffected, he was to me one of the most charming of my scientific colleagues.

His was a deeply religious spirit. In a formal address before the University of Havana he closed with the following words, which I here translate:

> I believe with Lamarck that there is nothing but God in the Universe, and that by the word Nature we mean simply an established order (a revelation of) Him whose true name we cannot decipher; who, in the burning bush, questioned by Moses, said, "I am that I am"; who, on Mount Sinai, called himself Jehovah, and whom in our mortal tongue, with filial tenderness, we call God.

On making known my errand at the Pescaderia Grande, Havana's great fish market, the first greet-

Amigo de Don Felipe

ing was: "Ah, but you must see Don Felipe; he knows all about fishes." And I soon found that the phrase, "*amigo de Don Felipe*," served as a passport to friendly help and honest dealing, for every fisherman knew Poey and regarded him as a personal friend. "Almost every day for twenty years," said one dealer to me, "Don Felipe was in the market at noon when the catch came in from the boats, and he knows more about the fishes than the fishermen themselves." Even in the years that followed, after he ceased to visit the market, he was not forgotten there, for many a rare specimen found its way from the Pescaderia to his home near by in the Calle San Nicolas. In a vague way, moreover, the townspeople generally had heard of Don Felipe's fame in far-off lands, and felt that his glory was in some degree reflected on themselves.

Fishes of Cuba

The fish fauna of Cuba is enormously rich. It had, however, been thoroughly studied by Poey. But I was able to secure at the market one small "*mojarra*"—*Diapterus olisthostomus*—which in forty years of observation he had never found. This is not so strange, as a rare little fish that looks like something else may easily escape notice in the great mass. The people eat everything, big and little, except a few forms which the law specifies as poisonous,[1] and the long tables in the great market are always loaded.

The fruit market of Havana was the richest in

[1] Certain tropical fishes may at times hold within their flesh a poisonous alkaloid bearing some resemblance in effect to strychnine, and producing a dangerous disease called *ciguatera*. In very warm waters some species seem to be always poisonous, some only occasionally so; and some with dusky or livid colors are regarded with much suspicion, though often without evidence.

my experience. Besides the usual abundance of oranges and bananas, one looked down on a wealth of *cherimollas*, *albicartes*,[1] *papayas*, and *sapodillas*. The last, a brown fruit like a little russet apple but having one large seed, is to my thinking the most delicious of all.

Cruelty to animals

Into the market in the early morning came from the back country a long procession of burros loaded with chickens, as well as with sheep and pigs tied in pairs and slung saddle-wise, head downward, over the backs of the donkeys — the pigs squealing lustily, the sheep helpless and dumb. To the suffering of animals and even to that of men, the Spanish race seems everywhere callous.

I had no time to go far into the interior of Cuba, but the region immediately about Havana is very attractive, with its white coral soil relieved by the green of tropical foliage.

Fish fauna of American river basins

In the summer of 1884, under instructions from Goode, I began a special series of further explorations of the fish fauna of the American rivers, carried on at intervals during the next five years. These various expeditions, continued in other waters by my colleagues and students, were in line with Baird's theory of utility in science. Knowledge loses nothing through acquiring human values, and research takes on a certain dignity by serving at once intellectual demands and human necessities.

By 1890 I had personally visited every considerable river basin in the United States. Later I extended my studies to include much of Alaska, Mexico, and

[1] *Avocado* or "Alligator Pear," both these names being corruptions of *Albicarte*.

Our work on fishes

Canada, as well as the South Seas, Japan, and Korea. Of the species of fishes now known — between 12,000 and 13,000 in number — my former students and myself discovered more than 2500 during the course of our various investigations. Of the 7000 genera, actual and nominal, named since scientific nomenclature began in 1758, 1085 are to be credited to us.

In the Southwest

On the expedition of 1884, I was assisted by Gilbert and Meek. Beginning at Ottumwa, Iowa, we proceeded southward and westward through Missouri, Arkansas, and Indian Territory to Texas, taking stream after stream in turn and ending with the Rio Comal at New Braunfels. We thus secured large numbers of specimens, including a great many new species, the whole constituting a very considerable addition to our knowledge of the distribution of fresh-water fishes.

At New Braunfels I was an involuntary listener to a political campaign speech, the only one I ever heard to the end. The hall was half a mile or more distant from my hotel, but the stentorian accents of Governor Hogg reached me through the open window. I have always insisted that no man can shout and tell the truth at the same time.

3

The following autumn certain unpleasant circumstances which I need not relate here — since they wholly concerned others than myself — resulted in the abrupt resignation of Dr. Lemuel Moss from the presidency of Indiana University. The board of trustees, an able and devoted body made

up largely of alumni, found themselves very much at a loss as to the choice of his successor. For the time being, therefore, they recalled Elisha Ballantine as acting president. Pending the election of a permanent head, applications were received from thirty-eight candidates. One of the more acceptable having been asked to come to the University to give an address and get acquainted, he spoke of his travels in Europe and incidentally in Holland, remarking that he had "visited Edam, Rotterdam, Amsterdam, and other dam places." That bit of humor chilled the audience, and his name was not again mentioned.

I was now asked to go over the list of applicants and give my judgment as to each individual. But not one seemed likely to prove a leader in education, and I therefore urged that they consider my associate, Dr. John M. Coulter of Wabash College, to whom I shall again refer, or else look for a young man of promise from one of the larger institutions in the East or North.

An undesired responsibility

To my very great surprise the board then unanimously offered the position to me — an outcome as undesired as unexpected, for my ambition ran entirely in the direction of Natural History and exploration, and I expected soon to be called to Washington in some permanent capacity. However, I accepted the responsibility temporarily, at the same time presenting a letter of resignation to take effect the following August, at the end of the academic year — a document promptly "lost" by the secretary of the board.

I thus became president of Indiana University on the first day of January, 1885. My inaugural ad-

Installation as president

dress I made very informal, as my installation took place in the middle of the year and at a time when affairs seemed at "dead low ebb." Nevertheless, I spoke of the institution as the most valuable of Indiana's possessions, not yet a great university, not yet even a real university, but the germ of one, its growth being as certain as the progress of the seasons. Having seen its vitality thoroughly tested in times of trial, we had reason to be most hopeful. For myself I added the following in all seriousness:

> It has been said reproachfully of Thoreau that with a genius which might have directed great enterprises, he preferred instead to lead a huckleberry party. In this matter I have always sympathized with Thoreau. It is easier to find leaders in the battles of the world than pioneers in the field of science. Science demands singleness of purpose, and scientific men have always been loth to leave their own pursuits to accept duties and trust from the State. Your congratulations may wait. Crœsus once said to a friend who flattered him: "Call no man happy until he is dead." Congratulate me, if at all, when I have dropped the harness and returned to my native pastures.

University's need of money

One of my first duties was to secure money for new buildings from the legislature then meeting in Indianapolis. The time was short and needs were pressing, the University's annual income of $35,000 being pitifully inadequate and the two halls already erected quite insufficient. But I at once encountered two distinct obstacles, the one grounded in sectarian jealousy, the other entirely personal to myself.

In the legislature a group of members, incited by certain advocates of denominational schools and led by an able lawyer, John R. Gordon of Greencastle, were making a vigorous effort to close the State

University altogether on the plea that it wasted state money "to throw it into that sink hole." Still others, not without show of reason, wished to unite the institution at Bloomington with Purdue, the State Agricultural College at Lafayette. The latter proposition naturally did not appeal to our sectarian rivals; the citizens of Bloomington stood out bravely against both plans, and both were defeated for the time being.

The member from Floyd

As for the second obstacle, I found the chairman of the finance committee of the senate, James H. Willard of New Albany, Floyd County, violently opposed to granting any help whatever to the State University because I was its president. Meeting me in the lobby, he recalled the fact that a few years before I had given a talk to students on "College Oratory" and had then taken one of his greatest efforts, famous like the others for rotund periods and florid adjectives, as an example of a style to avoid, and had urged the boys to forswear all attempts to "rival the member from Floyd." "You little dreamed when you laughed at me before your students," said he, "that very soon I would be chairman of the senate committee of finance and you would come before me begging for appropriations."

Replying that I was there solely in the interest of the state to which we both belonged, and that it was not in the least a personal question, I asked him to do the right thing. He was not appeased, however, and I turned for help to another quarter.

Loyal alumni

Fifteen graduates of the University then sat in the legislature, and before them I laid my case; regardless of party, they were loyal to a man, and gave me their fullest support. When the matter came

The member from Dearborn

up in the finance committee of the senate, one of them, Hugh D. McMullen of Dearborn County, spoke sarcastically of the chairman's attitude. Willard thereupon arose in high dudgeon and threatened to resign the chairmanship. McMullen immediately moved that the resignation be at once accepted; the motion passed by acclamation, and Willard found himself high and dry. He afterward remarked that "you cannot do anything in a legislature full of university alumni."

The member from Sullivan

At the same session the senator from Sullivan, who opposed any further endowment of the University, set forth a fantastic argument. Referring to William B. Creager, then superintendent of schools in his county, he spoke in substance as follows:

> Six years ago Bill Creager was working out road taxes in Sullivan at a dollar a day. Then he went to the State Normal School at "Terry Hut." Then Sullivan hired him again, this time as teacher, and had to pay a hundred dollars a month. Then he went to the State University at Bloomington, which we support with our taxes. He comes back and we make him county superintendent and pay him two hundred a month. That isn't fair. We pay for the schools and he gets the benefit, while we lose six dollars a day because Bill Creager has been eddicated.

Still another member "from down Cincinnati way," a saloon man of German origin, had never heard of universities, and asked what they were for. I explained their purpose to his satisfaction and apparently secured his vote. It is, of course, only fair to say that the majority of the legislature were competent, steady-headed men, largely farmers and country lawyers. I may also add that the most competent and helpful of all were often attorneys

retained by the Pennsylvania Railroad, which had a look-in on Indiana politics. With McMullen at the helm, I succeeded in raising the income of the University to about $50,000, besides securing an appropriation for a new wooden building — the original Maxwell Hall — with an additional sum for books and equipment. This was only a start, but never again did I have so hard a struggle with a legislative body.

Sweepin changes

When I became its president, the University of Indiana contained 135 collegiate students, with about 150 in the preparatory department, which served as a high school for Bloomington. In 1886 I made some sweeping changes, doing away with the fixed curriculum and adjusting the work so that practically all the subjects hitherto taught in the University, being elementary in their nature, were relegated to the first two years. Further than this, we instituted a "major subject" system, by which each junior or third-year student was required to choose a specialty or "major," and to work under the immediate advice of his "major professor," whose counsel in details he was obliged to secure. An individual course of study was thus framed for each one. This system, which has now stood the test of more than thirty years in Indiana, Stanford, and elsewhere, was originally developed by a committee consisting of Dr. Hans C. G. von Jagemann, Dr. William Lowe Bryan, and myself. Its purpose was to enable every one to make the most of his four college years, by seeking the best teachers and the subject best fitted to his tastes and capacity.

The "major professor" system

This scheme immediately opened our doors to

young men and young women of superior order, though the good people of Bloomington, and many old friends of the University as well, were very much alarmed for fear freedom of choice would lower standards and bring in an inferior type. The reverse was overwhelmingly true. The classes of 1886 and 1887, small in number for reasons not far to seek, ranked with the strongest the institution had ever graduated. Numbers, moreover, soon doubled, and the professors themselves felt a stimulus due to contact with young people drawn — not driven — to their work.

A new stimulus

In 1886, also, I persuaded the board of trustees to discontinue the preparatory school, throwing all responsibility for local secondary work on the town, and turning over the abandoned old building for high school purposes. Thus cutting in half the nominal registration again created some alarm, but that too abated when it was found that the number of new matriculates exceeded that apparently lost by the separation of the high school. Meanwhile, moreover, the graduating classes rapidly increased in size.

As to the faculty, my first executive move was to divide my work and call Dr. Branner, already regarded as among the most promising of American investigators in his field, to the new chair of Geology and Botany. In 1888, however, Botany was made a separate department under the direction of Dr. Douglas H. Campbell, a brilliant young investigator from the University of Michigan, then lately returned from Europe where his work had commanded the highest praise.

Another of my early innovations, already noticed,

was to ask Dr. Kirkwood to devote his whole time to Astronomy — Algebra and Geometry being assigned to Swain.

Promising graduates to the faculty

But next to freeing the University from its self-imposed educational fetters, my most important move was to bring trained and loyal alumni into the faculty. Up to that time vacancies had often been filled by professors released for one reason or another from Eastern institutions. Among my own early selections were a few young teachers from the seaboard universities, but most of these failed to adapt themselves, appearing to feel that coming so far West was a form of banishment. Indeed, as a whole, they seemed more eager to get back East than to build up a reputation in Indiana. Moreover, I found among the recent graduates several of remarkable ability; to them, therefore, I promised professorships when they had secured the requisite advanced training in the East or in Europe.

My first alumnus appointment was that of Horace A. Hoffman in Greek — in which field he had already served as instructor — after his completion of special studies in Harvard and at Athens. The choice abundantly justified itself, and Hoffman afterward served for many years as dean of the faculty, retiring as emeritus in 1920. Swain's turn came next. Dr. Kirkwood having indicated his desire soon to withdraw, I told my stalwart Quaker that if he would go to Europe and prepare himself as thoroughly as possible, the chair of Mathematics would be held for him. He accordingly worked for a considerable time under Chrystal of Edinburgh, returning with an excellent record and renewed enthusiasm. In 1891 he became professor of Mathematics at Stanford University; two years later he was called to the presidency of Indiana, afterward to that of Swarthmore College, Pennsylvania, the leading institu-

tion of the Hicksite Quakers, the liberal wing of the Society of Friends.

Bryan, a picturesque writer and most effective speaker, of winning personality, showed marked promise in the new science of Physiological Psychology. On his return from the University of Berlin I appointed him professor of Philosophy, which then included all forms of mental science. Later, by a turn in events he became successor to President Swain, a position he still fills with marked success. In lecturing over the state I often took Bryan with me to strengthen my influence with young men.

Gilbert I recalled in 1888 as professor of Zoölogy. Of Eigenmann's relations and advancement I have already written in detail.

Besides those above noted, I may mention Dr. James A. Woodburn, professor of American History; Allan B. Philputt in Latin, now a leading clergyman of Indianapolis; Rufus L. Green in Pure Mathematics, since 1894 on the Stanford faculty; and Robert E. Lyons in Chemistry. Other Indiana men whom I helped start on the road to professorships in their Alma Mater were David M. Mottier in Botany; William A. Rawles in Economics; John A. Miller in Astronomy, later professor at Stanford and at Swarthmore; Samuel B. Harding in Modern History; Arthur L. Foley in Physics; Edward H. Griggs in Literature; George P. Morris, Robert Newland, and Alfred Mosemiller in French; and Robert J. Aley in Mathematics, now president of the University of Maine.

Search for future leaders

In general, I was rigidly compelled by limitation of funds to look for men of future promise rather than of actual professional achievements. As a result, Indiana's list of professors was closely scanned every year by Harvard, Cornell, and other Eastern institutions.

A peculiarly interesting outside appointment, which failed of realization, however, was that of Fridtjof Nansen, a young, blond, Norwegian giant of six feet five, to whom, in 1886, I offered the chair

of Zoölogy made vacant by Gilbert's acceptance of a professorship in Cincinnati. Nansen was then curator of the museum at Bergen, where his excellent work on the anatomy of the Hagfish — *Myxine* — had attracted my attention. He had also captured and mounted several elk, stag, reindeer, and other big beasts of the North. *Nansen*

Having at first accepted my offer, when the opportunity afterward came to conduct an exploring trip across Greenland on foot, he asked for his release — though his friends, he wrote, thought him "a fool to do so." The Greenland expedition, nevertheless, led to his successful career as an explorer. He was later appointed professor in the University of Christiania, and subsequently became an active factor in the political life of Norway, of which nation he is now one of the most prominent citizens.

4

At that time the youngest university president in the country, I had little sympathy with the conventional methods of my contemporaries in similar positions, nearly all of whom were retired clergymen and *ex officio* professors of Philosophy. With the exception of Dr. Eliot, originally a chemist, scarcely one of them had had any scientific experience or training. And some degree of contact with objective reality I have ever thought an important element in university administration. Consequently in undertaking administrative duties, I decided not to abandon either research or teaching, as most other university heads had done, and throughout *Old-school presidents*

Bionomics my thirty-three years' service at Indiana and Stanford, I gave each year (unless absent) a course of lectures on what was later called by Professor Patrick Geddes of Edinburgh the Science of Bionomics. This deals with the philosophy of Biology, beginning with the laws of organic life and leading up to Eugenics and Ethics. Meanwhile I was continuously engaged in some line of research in Ichthyology, or in fields related to the origin of species.

It has always seemed to me that if a university president is to exert a stimulating influence on students, he should never relinquish the opportunities of the classroom. Again, as I have already implied, to judge the work of scholars accurately he himself should be a scholar, which condition he can maintain only through some form of actual research. Without personal effort toward the extension of knowledge, he is likely to fall out of harmony with scholarship and thus fail in his most important duty — the selection of progressive men.

Foibles of university heads Moreover, a university head is subject to the foible of omniscience, being expected by the public to speak with authority on almost every conceivable subject. Lacking the discipline of research, he is in danger of being satisfied with second-hand knowledge and of drifting with the current along lines of least resistance.

The obligations of my position now led me to enter on a new kind of activity alien to my taste and preparation. Up to 1885 I had given a few scientific lectures to general audiences, but no public addresses of other character beyond the occasional reading of an essay on some special occasion. It became at once evident, however, that I must make

Value of higher education

the people of Indiana realize that the State University belonged to them. Accordingly I soon prepared a lecture on the "Value of Higher Education" which I gave at teachers' institutes and before high schools in practically all the ninety-two counties of the state. I thus developed for the University a kind of intellectual leadership which brought many of the finest types of young men and young women to its doors.

Making friends

In connection with my talks, I also put forth every legitimate effort to secure influence in the legislature, not by presence in the lobby at Indianapolis but by friendly acquaintance beforehand with rising young lawyers and others likely to be chosen to direct state affairs. In this I was unquestionably successful, making friends in both parties and in every town by the simple means of interesting people in what I was trying to do.

We were, nevertheless, distinctly handicapped by our location, for Bloomington, then a small town, lies (as I have said) in a district of thin red soil just south of the line of glacial drift which overlies and enriches the northern portion of the state. Railroad connections were not good, and relations with Indianapolis, the center of the state intellectually, politically, and financially, were by no means satisfactory. With the continuing expansion of the University and of Bloomington's industry, the quarrying of white oölite limestone for building, conditions have greatly improved, and the institution now holds the position it deserves as the source and center of Indiana scholarship, having at present an enrollment of nearly 3800 students. For many years, however, its influence had been

Growth of Indiana University

potent only in the southwestern third of the state. During the six and a half years of my incumbency, therefore, I used every effort to help put Bloomington on the map.

A wise board of trustees

Throughout my entire term I had the support of an admirable board of trustees, very intelligent on the whole, and very sincere, standing high as individuals in their respective communities. Most of them were graduates of the University itself, and all were interested in my plans for making it more effective and influential, though meanwhile they never attempted to meddle with matters outside the range of their responsibilities. Of some of them I wish to speak, however briefly.

To Dr. James D. Maxwell I have already made friendly acknowledgment. Major James L. Mitchell, a veteran of the Civil War and for a time mayor of Indianapolis, was always wise, sympathetic, and just. For him we felt an affectionate friendship which included as well his devoted wife and son "Jimmie," now a leading attorney.

Judge David D. Banta was one of the salt of the earth. In 1888, at my request, he resigned his position as president of the board to become dean of the Law School, then newly established under rather unusual circumstances. The year before, having already secured the whole sum originally asked for and finding the legislature still well disposed, I ventured to suggest to Senator McMullen the appropriation of an additional amount for a School of Law. My plan was at once taken up and the money cheerfully voted.

Judge Robert D. Richardson was a fine spirit, clear-headed and devoted to the University — as well as to all other good causes. His two sons, Emmett and Owen, followed me to Stanford, where they both graduated. Isaac Jenkinson, who succeeded Judge Banta as president of the board, was also an intelligent and faithful official.

EDITH MONICA JORDAN, 1909

HAROLD BOWEN JORDAN, 1906

Alumni trustees

At the time of my election, the trustees were appointed by the state board of education, an *ex officio* body presided over by the superintendent of public instruction. In the spring of 1891 I secured the passage of a bill providing that three of the eight members should be chosen by the alumni of the institution resident in the state. This ensured a healthy participation in university affairs by the graduates, and a renewed interest in its operations.

In the spring of 1885, accompanied by three of my colleagues, I made a visit to Lake Superior. The scientific results of this trip were not very important, being mainly a verification of Agassiz's observations, published in 1850. The scenery about Mackinac Island, Sault Ste. Marie, and the Keweenaw Peninsula we found very interesting.

Death of Susan Bowen Jordan

In November of the same year my children and I suffered a disheartening loss in the death of my wife Susan. This was the last of a series of fateful events with which the reader is now familiar and which occurred during a period of little more than two years out of the middle of my life. Edith, the eldest of the children, was then not quite nine, Harold a little over three, and Thora, a sweet child whom we thought like her mother, only a baby. Edith and Harold — both of whom graduated from Stanford University in due season — have now for some years been living useful lives of their own, though always in touch with mine. Upon leaving Stanford, where she specialized in History, Edith took her master's degree under Dr. Henry Morse Stephens at Cornell. Returning to California, she became a very successful teacher of History in secondary schools. At the

time of her marriage to Dr. Nathaniel Lyon Gardner, assistant professor of Botany in the University of California, she was head of the department of History in the well-known Polytechnic High School of Los Angeles.

Harold, who graduated in Chemistry, was for several years employed in various smelters in Mexico and Central America, where he made a good record. Recently, impelled partly by necessity due to disturbed conditions in the mining industry but largely from a desire to get back to the soil, he has taken up the business of orchardist in Oregon. Thora's span of life was very brief, as she died about a year after her mother.

CHAPTER THIRTEEN

I

To the University came naturally from time to time various distinguished men. We once had a visit from Alfred Russel Wallace, a wonderfully sincere and intelligent observer who in his wide range of experience had seen nature in many phases, all of which he reported faithfully and in most interesting fashion. And in the early days of his fame Henry George spoke at Bloomington. This gave me the opportunity to talk with him on the application of the Single Tax to actual conditions. I wanted to find out whether he thought the scheme should be put into operation all at once, or by degrees, and whether in his judgment the public ought first to buy out vested rights in land.

Alfred Russel Wallace

Henry George

Sudden action, it seems to me, would immediately unsettle or destroy land values, and would be, moreover, a breach of faith with legitimate vested interests, such values having been recognized and guaranteed by the government from time immemorial. Furthermore, farm lands — as well as city lots — are owned by "innocent purchasers" who have largely invested all and often more than all their personal capital in such holdings. A violent overturn I thought politically impossible and purchase by the state financially so, while confiscation by degrees might be politically acceptable and yet fail in justice to the individual.

Mr. George did not answer me directly nor did he make clear his views in this regard, being inter-

ested primarily in the outcome rather than in the method. Apparently, also, he did not wish to advocate any particular plan, although to put the theory into operation one or another must certainly be chosen. His own inclination seemed to be to rush it through at once, thus taxing out of existence land values as distinguished from labor values. He was personally very interesting, and a very effective speaker; but I have never yet got from him or from any of his followers a satisfactory answer to the question of how to substitute land taxation for the old system in effect time out of mind.

Wendell Phillips

One lecture we had from Wendell Phillips, a man of great earnestness, with a remarkable command of simple and strong language without labored climaxes or any visible effort at oratorical effect. His theme, "The Lost Arts," naturally demanded no display of the moral vehemence for which he was noted in his campaign against slavery. But it was a delight to see and hear a maker of history; it is well, particularly for young people, to know the great of the passing generation. One of my present regrets is that when younger I did not more often venture to intrude myself on the privacy of men I had learned to worship. I never saw Lincoln, Emerson, Darwin, or Huxley, although the last three were fairly within my reach.

Beecher

Henry Ward Beecher also spoke once for us. A man of force and of remarkable personal charm, he had relatively little of the critical faculty which might have saved him from certain exhibitions of undue sentimentalism. But beyond question he deserved well of his country.

A. Bronson Alcott of Concord was another of our

lecturers, though his somewhat esoteric doctrines met with scant response even from the Bates School of Philosophy. As a matter of fact, his visit was chiefly remembered because of his cold reception of Indiana hospitality. In accordance with the prevailing Southern custom, his hostess had spread a groaning table — roast turkey, scalloped oysters, chicken pie, and boiled ham, flanked by all manner of toothsome jellies, pickles, and preserves, to be followed by ice cream and melting layer cakes. To the horrified dismay of Mrs. H—— and her clever daughters, Alcott curtly declined it all, explaining that he ate next to nothing and but little of that.

Western hospitality

Theodore Roosevelt came at my invitation in the spring of 1888 to speak on Civil Service Reform, which he did with effectiveness and energy. I first met him on this occasion; he was then United States Civil Service Commissioner, and rising to prominence. After the lecture we started together for Indianapolis. A tornado having blocked the trains, we were obliged to spend the night in the little station of Limedale — then Greencastle Junction. During this long wait he told me something of his political ambitions, which already ran high, although he was only thirty years old. With the opinions of George William Curtis and other "Mugwumps" of that day he had entire sympathy, but he would not join them formally. Said he:

Roosevelt and reform

> I can understand how a man can work outside the party or inside the party; but he cannot do both. I shall always work inside the Republican party, and shall never undertake any movement without a substantial group to back me up.

In the course of the night he recalled a conversation he once had with Murphy, the Democratic "boss" of New York State. Expressing surprise that Murphy should have chosen a Republican for a certain remunerative office, he was answered:

> You are a young man, Mr. Roosevelt. When you are as old as I am you will know that there is no politics in politics.

Roosevelt-ian epithets

The essence of Civil Service Reform, according to Roosevelt, was "to take politics out of politics."

From that time on, as will later be seen, I had with him many and varied relations. These ranged from that of valued friend and adviser (especially on matters pertaining to the Pacific) to "molly-coddle" or "international Mrs. Gummidge." For, though a lover of peace as a general thing, Roosevelt was increasingly obsessed with the elemental glories of war, and cherished the belief that, as he expressed it, "to play a great part in the world, a nation must perform those deeds of blood which above all else bring national renown." In the efficacy of the international "big stick," also, he placed his trust. For differences of opinion he had always large charity, — for difference in feeling often none at all, — a fact which explains some matters otherwise hard to understand.

A joyous nature

Brought up amid the traditions and conventions of New York society, he was nevertheless joyously non-conventional. His sense of humor was not keen, he was never subtle, but his appreciation of a good time was large and unfailing. His own jokes he in a way italicized by change of voice to a sudden falsetto. Thus I once heard him say, — at Berkeley, in 1909, — "While Congress was debating the

question, I took the Canal Zone and LEFT CONGRESS TO DEBATE ME!" — the last phrase being spoken an octave higher than the others, which gave a humorous twist indicating that the remark, afterward much criticized, was only half-serious.

Roosevelt as naturalist

As naturalists we always met on common ground. For Natural History was Roosevelt's first love as well as his last enthusiasm. Entering Harvard at the age of eighteen, he had hoped to devote his life to it; but defective eyes do not connect well with microscopes. His ambition was therefore thwarted by teachers who limited animal study to the microscopic field, overlooking the fact that besides primordial slime and determinant chromosomes, there are also in this varied world grizzly bears, tigers, elephants, and trout, as well as songbirds and rattlesnakes — all of them profoundly interesting and all alike worthy of serious study. "When you ask us why we study what we call nature," said an ancient Persian sage, "we stammer and are silent. We feel as the Creator might feel if asked why he made all these things."

Discouraged as to his original choice, Roosevelt turned to Political Science and then presented his private collection of bird skins to Baird, who later gave them to me, as the Smithsonian already possessed full series of every species. I transferred them in turn to the University of Indiana, and they now rest in Owen Hall in an elegant case, each skin nicely prepared and correctly labeled in the crude, boyish handwriting which the distinguished collector never outgrew.

At the White House I once had occasion to remark: "They spoiled a good naturalist in making

Love of birds

you a statesman." But the naturalist never disappeared. In 1912, during an automobile drive across the Santa Clara Valley, I noted his keen interest in the sparrows and warblers of roadside thickets. These he could call by their first names, and mostly by their second. In the Yosemite, with John Muir, he observed facts in bird and squirrel life which had escaped even his keen-eyed and sympathetic companion.

In our exploration of Hawaii in 1901, Evermann and I came across a very beautiful fish, the *kali kali*, golden yellow with broad crossbands of deep crimson. This then bore the name of *Serranus brighami*, given it by its discoverer, Alvin Seale. But the species was no *Serranus*, and it was plainly the type of a new genus. We therefore called it *Rooseveltia*, in honor of "Theodore Roosevelt, Naturalist," and in recognition of his services in the promotion of zoölogical research. With this compliment he was "delighted." "Who would not be?" he said.

Rooseveltia brighami

In the various natural history explorations undertaken by me — and by others — during his administration, one could always count on intelligent and effective sympathy; and in so far as scientific appointments rested with him, he always gave them full and intelligent consideration. In 1905 I was preparing with much enthusiasm to take charge of an exploration on the *Albatross* of the deep seas around Japan.[1] Talking it over with me and pounding the table with his fist for emphasis, he said:

Deep-sea explorations

[1] Events to be related in my second volume kept me at home, and the expedition of 1906 was led by Dr. Gilbert.

"It was to help along things like this, Dr. Jordan, that I TOOK THIS JOB!"

And it may be fairly stated that under him governmental science reached its high-water mark.

Our second meeting took place in Albany in 1898, while he was governor of New York, he having wired me to stop and spend a night with him on the way back from Boston. But when I arrived he had been called to the metropolis to review a regiment of militia and did not return until three in the morning. At eight, however, he bounced into my room, scolding me in a big-boyish fashion for lying abed so long when I ought to be up and doing. During the morning we discussed the Philippines, an entanglement from which he hoped we could get honorably free. "I wish to God we were out of the Philippines," he said. Later he wrote suggesting that I ought not to repeat the remark, it being a matter of private conversation, which if made public he would have to deny. This position really had ample justification, because his impulsive utterances, torn from their context, often gave a false impression. As a matter of fact, in the letter to me he repudiated also an epigram, currently attributed to him, that "McKinley had the backbone of a chocolate éclair." In such fashion rose the famous "Ananias Club."

Anent the Ananias Club

One other subject touched upon in our conversation in Albany concerned the slovenly treatment of the American soldiers in Cuba — especially in matters of sanitation — and the inefficiency of a certain general whom he held responsible. About these things he spoke with much sharpness.

His real interest, however, in seeing me at that

Civil Service in Alaska

time appeared to concern the Civil Service in Alaska, a matter I had incidentally discussed in an article for *The Forum*. There I had dwelt on the sufferings of the Alaskan natives, due to the dishonesty or inefficiency of certain government officials as well as to the wanton destruction by greedy poachers of the sea otter, on the skins of which most of the coastwise Aleuts depended for maintenance.[1] In this connection I asserted that Russia had the same right to complain of our mistreatment of the Alaskans as we to protest against Spain's treatment of the Cubans, the chief difference being that the Alaskans were much fewer in number and farther away. In his report as governor, Brady himself had written that the officials of Alaska as a whole acted "like a school of hungry codfish."

The tennis cabinet

As President, Roosevelt held his own opinions somewhat in abeyance, being ready to take advice; and men of progressive temper — Gifford Pinchot, James R. Garfield, and others — constituted his inner or "tennis" cabinet. For economics and jurisprudence he had scant regard, but in foreign relations he was fortunately steered by his eminent and eminently conservative Secretary of State, of whom he once said, "Root is one-eighth human." Knox, his Attorney General, short of stature, hairless, and with an impassive face, he designated as a "sawed-off cherub."

During his administration it was my fortune to visit Washington on fur seal or fishery business once every year, and I was each time a guest at luncheon in the White House. To these singularly interesting midday functions a great variety of people were in-

[1] See Chapter XXIII, page 581.

vited, and our host spoke with utter frankness, of which few ever took advantage. Those who did he relegated to the "Ananias Club" and never invited again. Concerning Booker T. Washington's presence on one such informal occasion, Roosevelt afterward said to me:

I never dreamed that it would call forth a storm of criticism, and it would have made no difference if I had!

At the last of the luncheons which I attended, he appeared at his best. Speaking of a leading Chicago banker who had just left the room, he remarked:

I'm not the right President for men of that kind. I can't understand what they are after, and they don't comprehend me. I'm President for men like you.

"His Favorite Author"

On the wall of the White House reception room hung a framed cartoon entitled "His Favorite Author" and representing a well-to-do farmer sitting, slippered, by the grate, reading "the President's Message." To another guest he observed:

I like to imagine that I am indeed "his favorite author" to men like that. But if I were to try for a third term, he wouldn't like it.

And afterward to me:

I have tried hard to avoid another nomination — harder than any dozen men ever tried to get it.

At his best

When I recall the Roosevelt of later days, there rise to my mind the last words of Steerforth in "David Copperfield" — "Think of me at my best, Davy." With the rest of his countrymen I shall think of him at his best. Best and worst — that

Roosevelt's strength and weakness

which his friends most praised, and that which his critics most decried — were strangely mixed. In my judgment strength and weakness sprang from the same root, for he thought with his heart rather than with his head. Though peculiarly fitted by nature and training to form opinions, these were always subordinated to feelings. Where emotion ran contrary to reason, so much the worse for reason! But when, as in most cases, reason and emotion went hand in hand, he was an immense force for good.

That the precepts of righteousness are largely self-evident was the basis of the common criticism that Roosevelt dealt in platitudes. That he put energy behind the demand for right in politics explains the remark made to me by Thomas Brackett Reed, "Roosevelt has discovered the Ten Commandments." He had, in fact, come to see that those precepts apply to political life as well as to Sunday School, and he emphasized his discovery with all the strength of a powerful, elemental nature.

2

The prey of spoilsmen

As already indicated, my first meeting with Roosevelt arose out of our mutual interest in Civil Service Reform, which seemed to us both the most pressing issue then before the American people. For beginning with the time of Andrew Jackson, down through the Civil War and on to the administration of Mr. Cleveland, the United States Civil Service was the prey of spoilsmen, the different positions being divided up among members of Congress who assigned them to various henchmen without con-

sideration for efficiency or the public good. This condition reached its worst phase in Arthur's administration, when a very vigorous reform movement was set up by George William Curtis, Carl Schurz, Dorman B. Eaton, Dana Horton, William Dudley Foulke, and others. With Foulke, a resident of Richmond, Indiana, I came to have very pleasant relations. We first met in 1885 when he was elected to the state senate and signalized his arrival by "Senate Bill Number One," an act to place the Indiana Civil Service on a merit basis. This was then a great innovation and failed to carry at the time, although since accepted in principle throughout the country. And for many years Foulke kept up the fight, becoming a Federal Civil Service Commissioner during Harrison's administration.

Foulke

The nomination of Garfield for the presidency in 1880 seemed like the dawn of a new political day, for he was a man of intelligence who had stood aloof from political corruption. Unfortunately after his inauguration he was violently attacked by the purveyors of patronage and was murdered in 1881 by a desperate office seeker. His last words having been "*Strangulatus pro Republicâ*," with these for text I prepared my first political address, "The Disappearance of Great Men from Public Life." [1] In that essay I explained that the spoils system had brought the "office broker" into power, replacing statesman and demagogue alike by its methods of wholesale bribery at public cost. Existing political conditions I described as a sort of feudal system topped by a "boss," with the various minor officials and recipients of favor grouped as retainers next

Slain for the Republic

[1] See Chapter VI, page 132.

below, and those who vote the straight ticket as mere serfs at the bottom. The only remedy, it seemed to me, lay in the adoption of the merit system in administrative and clerical positions. A competitive examination would not, of course, test the real worth of men, but if honestly carried out would eliminate the political poison involved in the assumption that "to the victors belong the spoils."

Merit, not politics

We are told that the merit system would give us an aristocracy of office holders, a dangerous thing in a republic. An aristocracy of collectors, clerks, and letter carriers? These are servants of the people. Must we keep them always on the verge of dismissal to humble their pride? The methods we contend for are in the main still in use in our schools. Have we an aristocracy of school teachers? The case is exactly parallel. Clerks, teachers, collectors, postmasters, letter carriers — the nation wants faithful service, and no more. The laborer is worthy of his hire, and the right to vote as he believes, without compulsion, should not be denied him. . . .

The remedy lies with the people. Let us think as well as vote. I have for some time kept a black list of men in my party for whom I will never cast a vote. This list is already growing long; but if I did my duty as a citizen better, it would be longer still. Let all earnest men, Republican or Democrat, keep such a list. Let us watch our representatives more closely, and guide our votes by theirs. They will bear watching, and it may influence them. Already the pencil of the scratcher is felt as a purifying influence. The independent voter is the one thing the machine cannot stand. When the people are in earnest as to Civil Service Reform, the reform will come, — slowly, unwillingly, — but still it will come. We are not mocked forever.

Two Presidents we have had, in these later days, of stature worthy to be called statesmen. One fell a martyr to slavery, the other to our deformed Civil Service. "*Strangulatus pro Republicâ!*" Slain for the Republic! And shall the Republic stand idly by and heed not the lesson? Shall Garfield's death be only loss?

This point of view brought out some sharp criticism from my Republican associates, although eight years later, under Mr. Harrison, the Republican party adopted, even if somewhat grudgingly, the principles I had advocated.

Civil Service in Yellowstone Park

The operation of the spoils system may be illustrated by a typical incident in which I was personally concerned. In 1882 Baird conceived the idea that a naturalist might well be attached to the staff of the commandant of Yellowstone Park for the purpose of scientifically observing the elk, bear, beaver, and other wild animals. He therefore asked me to suggest a good man, and I proposed Meek, then one of my advanced students in Zoölogy. But this stirred up our representative in Congress, Columbus C. Matson, who insisted on the right to nominate if any one from his district were to be put in office. Matson's first candidate, however, was a man who could not possibly accept, being confined at the time in the Monroe County Jail to expiate the social error of larceny. His second choice received the telegram announcing his appointment one Sunday morning when he was trying to ride a serious, remonstrant horse through the door of a Martinsville saloon! This fellow sobered up sufficiently to reach the Park, but soon died of alcoholism at Mammoth Hot Springs, and Baird's excellent plan came to nothing.

For the great improvement in our national Civil Service we are largely indebted to Cleveland, Harrison, and Roosevelt, though not one of them was able to live up to his ideals. The McKinley administration marked a distinct lapse, and no considerable advance has taken place under either Taft or Wilson.

At the White House

In the early weeks of McKinley's incumbency I had occasion to call at the White House in company with James R. Garfield. The large upstairs room on the east end was crowded with office seekers, one of whom — a big, fat fellow — could hardly keep from rolling off the sofa. Another, an old gentleman with a patriarchal beard, who wanted to be Minister to Sweden, handed out a document in which McKinley himself, four years before, had urged Harrison to appoint the bearer to the coveted place. "But that was another time," protested the weary President. Mr. Garfield, looking around on the motley assemblage, said: "This room used to be our little school."

McKinley showed endless patience in dealing with the political job hunter, Roosevelt none at all. When the latter became President, he made quick work of purveyors by repeating in a loud voice their whispered suggestions:

> What, you urge this man on me, and then say confidentially that he isn't fit for the job? What do you mean?

McKinley's method

McKinley's appointments, furthermore, were made for the most part on a purely partisan basis; and as the Republican party includes low-minded as well as high-minded men, he thought it fair that both classes should be represented in the public service. Nevertheless, he took some pains to see that the decent element got the best of the deal. Thus, in a certain district where five judgeships were vacant, he appointed three men above reproach, one of them as presiding justice; but of the other two the less said the better.

Meanwhile he was mindful of his own political

future, as one suggestive incident will attest. In the spring of 1900, Colonel Frederick Funston returned from the Philippines with a well-earned reputation for courage and good sense, somewhat overdone perhaps (as he himself asserted) by an exaggerated enthusiasm on the part of the war correspondents. Being an intimate friend and old college chum of Professor Kellogg at the University of Kansas, he came down to Stanford for a brief visit. His intention, he then said, was to resign from the army, and he hoped for but one thing — that he might be chosen to lead the Kansas delegation in the approaching Republican nominating convention, with the view to "stampeding it for Roosevelt." He doubtless spoke to others of this plan; in any case, before he could leave for Washington, and much to his surprise, he received promotion to the rank of brigadier general with orders to return immediately to the Philippines. His subsequent career was highly creditable, his administration of the city of San Francisco during the earthquake-fire of 1906 was most admirable, and his untimely death in 1914 deprived the United States Army of one of its sanest officers. But his promotion in 1900 illustrates how history is sometimes forestalled.

Funston's promotion

My opposition to the spoils system — and my interest in clean government generally — led me to support Cleveland against Blaine and to ally myself with the group of insurgent Republicans known as "Mugwumps." Like the majority of university men of Republican antecedents, I had felt a steadily increasing distrust of Republican leaders — partly because most of them were obviously controlled by certain financial interests, partly because they main-

The Mugwumps

Partisan tricks

tained their dominance by "waving the bloody shirt" — that is, by denouncing the South for atrocities, real or alleged. They also charged that the old Confederacy was still in the saddle, as most of the political leaders of the New South had been officers in the Confederate army. Naturally so; every Southerner fought in the war, and practically all who were fit to command had received commissions.

But the great need of the nation was still, as before, conciliation and coöperation, a revival of Lincoln's policies overborne in the savage years of reconstruction when the murder of our greatest President put extremists into power. However, I voted once for Garfield whom I trusted, once for Harrison whom I knew to be trustworthy, and with much internal protest, mental and moral, twice for McKinley.

CHAPTER FOURTEEN

I

A call to Iowa

In the spring of 1886 I was offered the presidency of the State University of Iowa, whereupon I visited Iowa City and felt strongly disposed to accept the offer, for several reasons. As the finest farming district in the whole United States, Iowa was destined to be very rich; at the same time, with no large cities and no congested manufacturing districts, its population rated higher on the whole than that of any other state. The university trustees, moreover, seemed eager that the institution should lead in educational progress. On the other hand, the faculty was quite disorganized, its members at odds among themselves, and several were marked for removal (more or less justly) by the authorities.

On returning to Bloomington, I found the board a solid unit against my going. Mitchell and Richardson, especially, made it a matter of personal appeal so strong and so touching that I finally declined to leave Indiana. I then ventured to suggest to some of the Iowa trustees that their young professor of Botany, Thomas J. McBride, would be admirably fitted for the position in question; but they elected Dr. Charles A. Schaeffer of Cornell, my former professor of Chemistry. Schaeffer's long and successful administration, ending with his death, was followed by two others, after which McBride succeeded to the office. Unfortunately he had then about reached the retiring age, but his appointment was acceptable to all interests, and his brief service as head of the

President McBride

institution (1914–16) added to his high reputation as professor.

The Jardin des Plantes

In the summer of this year I went again to Europe, attaching myself for a second Norwegian trip to a group of students led by Swain. The rest of my vacation was mostly spent at the Jardin des Plantes, where I devoted myself to the study of fishes, especially to the type specimens examined by Cuvier and Valenciennes, and afterward by Agassiz.

> Those little low rooms, five in number [said Theodore Lyman], should be the Mecca of scientific devotees. Every great naturalist of the past hundred years has sat in them and discussed those problems which are ever inviting solution and are never solved. The spirits of great naturalists still haunt these corridors, and speak from the specimens their hands have set in order.

In the mountains

Upon my return from Europe, I spent some time in the White Mountains, climbing Mount Washington, the highest peak north of the Great Smokies. Its bleak summit, though little more than 6000 feet above the sea, carries the impression of great elevation, rising as it does into a treeless belt characteristic of the Arctic Zone.

Speaking of Eastern mountains, I also recall that in the latter part of four different summers between 1878 and 1888 I went to the Adirondacks for short outings. There the fine forests and trout-filled lakes excavated by glaciers always charmed me. At one time I visited Moriah and Mineville, the home of my fathers, who had, however, been wholly forgotten in the region. Mount Marcy, the highest of the Adirondacks, I climbed as a matter of course, it being my habit never to let a peak escape if it could be "conquered." Marcy is not lofty, but is

very interesting, especially by reason of its rare plants and successive zones of Northern vegetation.

A noted guide

In Keene Valley I made the acquaintance of "Old Mountain Phelps," the shrewd and picturesque guide celebrated by Charles Dudley Warner. Among other eccentricities, Phelps would never allow a camp to be made in sight of Marcy. "You must never hog down scenery," he said.

On one of my several Adirondack trips, tramping across the North Woods, I came out through the forests of North Elba to the old "John Brown Farm." Here Brown lived for many years, and here, away from political influences, he tried to establish a colony of freed slaves. Here, too, his family remained while he took part in the bloody conflicts that made and kept Kansas free.

The little house stands near the edge of the great woods "in a sightly place," as they say there, away from the sheltering trees. At the foot of the hill the Au Sable — small, clear, cold, and full of trout — flows in a broad curve. Not far above, the river rises in the dark Indian Pass, the only place in the Adirondacks where the ice of winter lasts all summer long; from under it the Au Sable bursts out on one side, the infant Hudson on the other.

"John Brown's body"

In a fenced-in plot before the dwelling John Brown's body still "lies a-moldering" — not even in a separate grave, for his bones rest with those of his father, and the short record of the son's life and death is crowded on the elder Brown's tombstone. But near by uprears a huge, wandering boulder, ten feet or more in diameter, torn off years ago by the glaciers from the granite hills that hem in the pass, and on its upper surface, in letters which can

be read plainly a mile away, has been cut the simple name —

JOHN BROWN

In the fall of 1886 I was asked by a representative of the London Zoölogical Society to act as editor of that part of *The Zoölogical Record* which deals with fishes, Mr. W. R. Ogilvie-Grant having then given up the work. The great distance of Bloomington from London, however, made the arrangement difficult, and the task was therefore assigned to Dr. George A. Boulenger, who had lately come from Brussels as Dr. Günther's colleague.

A second visit to Pensacola

During the next Easter vacation, taking with me my daughter Edith and a few students, I made a second visit to Pensacola, which I again found extremely favorable for my purposes. In the Grand Lagoon, a shallow bay, were multitudes of little sea horses of a new species, hanging by their tails to the eelgrass. And I arranged with Silas Stearns to send out Evermann and Bollman with his deep-sea fishing boats to gather and save all the small creatures regularly spewed out on deck by the captured Red Snappers and Groupers. For in fishes brought from the depths the stomach always turns wrong-side out because of the reduced pressure at the surface. We thus secured many very interesting species which live about submerged rocks and which have never yet been obtained in any other way.

To the most interesting of these I gave the name of *Steinegeria*, in honor of Leonhard Stejneger, the distinguished young Norwegian ornithologist brought in 1881 by Baird to Washington, where he came to be recognized as one of the most learned and efficient

of living naturalists. To him was assigned the curatorship of reptiles. In 1896 he acted as one of my colleagues in the fur seal investigation, of which I shall have a good deal to say farther on.

2

Evolution of the college curriculum

In the spring of 1887 I became president of the College Association of Indiana. My official address, "The Evolution of the College Curriculum," was much discussed throughout the state, as it was the first general formulation of views I had often in part proclaimed and was then carrying into effect at the university. These had their origin in my own youthful experience — the desire for scientific knowledge which contributed so largely to my satisfaction in going to Cornell. In my later career as teacher, the soundness of White's ideas had been incessantly forced upon me. With executive responsibilities I had adopted and extended his views of liberty in education.

In my discourse I explained the origin of the traditional classical curriculum of four years as derived from the English college. This was a course of study composed mainly of Latin, Greek, and Mathematics, ending with a dash of safe and sound Philosophy by the president — traditionally a clergyman — the whole constituting a general education supposed to prepare especially for the career of gentleman or clergyman. Continuing, I outlined the effect of the pressure of modern studies, at first retrogressive because it broke continuity and discipline by various futile interpolations. In such

The dregs of learning

patchwork concessions to opportunism [1] Greek (and later Latin), as I have previously explained, was replaced by odds and ends of Science, History, and Modern Languages, the resulting makeshifts, rightly regarded as inferior, being designated as "Science," "Philosophy," and "Literature." The degree of B.S., as then awarded for such superficial courses, I defined as "Bachelor of Surfaces."

I further tried to show that higher education in America must recover its dignity, and that not through the crowding out of the Classics with invertebrate fragments of other forms of discipline, but by a well-considered adaptation of study to the needs of the individual. This could be attained only through the development and coördination of a rational elective system by which each student chooses his own line of work and is stimulated to pursue it to a degree of mastery. My argument, I repeat, was not that Greek or Latin should be abolished or neglected, but that ample provision should be made for science and modern "humanities."

A radical suggestion

In developing this thesis I advocated the ultimate abandonment of the Bachelor's degree, and the recognition of advanced professional degrees only — in research along various lines, as well as in Medicine, Law, and Engineering. As a beginning, I suggested that all Bachelor's degrees should be merged into one, that of Bachelor of Arts. This step had already been taken at Johns Hopkins and at Harvard, a policy afterward followed by numerous other leading

[1] The theory of the system was feelingly expressed by the learned Dr. Noah Porter, then president of Yale:

"We couldn't provide for special talents and we had to give something the general run of the boys could chew on; it didn't matter much what."

Quoted by Henry Holt, *Unpartizan Review*, July, 1920

institutions, although "conservative Cornell" still confers several different baccalaureate titles. With passing years I have seen no reason to change materially the views thus early formulated by me, though I recognize that the abolition of the Bachelor's degree, which represents merely a start in general culture, is much farther off than I had anticipated. Baccalaureate degrees, moreover, have one real value, that of identifying and binding together a body of college alumni.

In the spring of 1887, also, the Indiana Academy of Sciences was organized, with me as first president, its nucleus being, as I have said, the enthusiastic local Natural History Society of Brookville. For my formal address at the academy's first meeting I chose "The Dispersion of Fresh-water Fishes," setting forth all that was then known of the various ways in which fishes migrate from one water basin to another.

Dispersion of river fishes

During the summer I spent some weeks in the Harvard Museum of Comparative Zoölogy, working over all the marine fishes collected by Agassiz in Brazil, and describing the various species new to science. The thousands of river fishes in the same collection I did not touch, as the amount of material was far too large. Some of it was later studied by Steindachner of Vienna, one of Agassiz's early assistants; the rest by Eigenmann, whose explorations of South American rivers have been more extensive than those of all other naturalists combined.

On August 10 of this year I was married, in Worcester, Massachusetts, to Miss Jessie Knight, a Cornell student with whom I had become ac-

Marriage to Jessie Knight

quainted in connection with my attendance at a trustees' meeting at Ithaca earlier in the year, and who for thirty-three years has been my helpmate, friend, and critic. For as James Stephens observes, to marry a university woman is to have ever after "a critic on the hearth." In these pages, however, I may only hint at what her companionship has meant to me.

A Huguenot Puritan

Miss Knight was the daughter of Charles Sanford Knight, a veteran of the Civil War, and Cordelia Cutter Knight, both formerly of Ware, Massachusetts. On Mr. Knight's side there was a dash of French Huguenot blood which shows itself plainly in the olive complexion, dark hair, and big black eyes of his children, a feature persistent through succeeding generations.

Admiral Knight

Mrs. Jordan's elder brother is Rear-Admiral Austin M. Knight, retired, but recently on duty in Washington as president of the Naval Board of Awards — an appointment received with general satisfaction among navy men as guaranteeing fairness and intelligent discrimination. For some time previous to our entrance into the war, Admiral Knight was president of the Naval War College at Newport; in this capacity he made a signal success. During the period of our participation in the war he was commander of the Asiatic Squadron and senior naval officer at Vladivostok under circumstances which required marked qualities of force and discretion. A man of broad culture and resources outside his special professional field, he is best known as the author of "Seamanship," an exhaustive treatise and accepted text on the subject. He has also, I believe, the honor of having been in

1886 JESSIE KNIGHT JORDAN 1898

the service for a longer period than any other officer of the modern navy.

Mrs. Jordan's only other brother is Charles S. Knight, Jr., a business man of Chicago. One of several sisters, Bertha, the youngest, lived with us for a time in Bloomington, where she graduated from the University. She afterward married Henry Landes, a fellow student to whom reference has already been made. For many years past she has lived in Seattle, where her husband has long held the professorship of Geology in the institution of which he was for a year and a half acting president.

University obligations having made it imperative to return to Indiana by the middle of August, I planned a sort of deferred wedding trip the following summer. In June, 1888, therefore, we started for the Adirondack Mountains, through which we drove for several days, making the circuit of Keene Valley, Lake Placid, and the Saranacs, thence over to Willoughby Lake in Vermont. This last, the deepest, clearest, and most charming of all the glacial tarns of the Green Mountains, is overshadowed by a huge cliff about which grow many rare Northern flowers. In that delightful region we combined work with pleasure by reading the proofs and arranging the index of a new and completely reset edition of the "Manual of Vertebrates." Afterward, passing northward to Granby, we went down the St. Lawrence to Quebec, where we delighted in the atmosphere of the old French town. Hiring a *calèche* one day, I astonished the owner by dismissing him, mounting myself on the box and driving to Montmorency Falls, whilst my young wife sat behind in state,

Willoughby Lake

Quebec

concealing with difficulty her somewhat mingled emotions.

Sainte Anne de Beau-Pré

From Quebec, also, we went on a "pilgrimage" in a driving rain down the river to the famous shrine of Sainte Anne de Beau-Pré. The boat was crowded with devotees from all over the province, seeking relief from disorders real or imaginary. In spite of certain obvious illusions, however, we saw much that was touching in the simple sincerity everywhere evident. The walls of the church were loaded with votive offerings and crutches left by people whose faith, for the time at least, had made them whole. Unfortunately on the day of our visit the heavy downpour made it impossible to carry out our original intention of going inland to the splendid Falls of Saint Anne, and later visits to Quebec have been too brief to permit the détour.

Luray

Our personal excursion over, my wife and I proceeded to Luray, Virginia, where I resumed the exploration of the Southern rivers, assisted by Evermann, Jenkins, and Meek. Beginning with the Shenandoah at Luray, the beautiful limestone cavern of which we explored, our party moved southward, examining the James, Roanoke, Neuse, Cape Fear, French Broad, Holston, Tennessee, and Cumberland rivers, and collecting several thousand specimens, among which we discovered more than a dozen new species of darters and minnows.

But the most important general result, already foreshadowed during previous explorations, concerned the parallelism of the faunas of the different streams which diverge from the Appalachian highlands to the Atlantic and the Gulf of Mexico. In all these waters the same general types prevail, but

among the small, non-migratory fishes — minnows and darters especially — the species are different, each river having its own kinds, with their nearest relatives occurring in the next, not in the same, stream. Similar conclusions in regard to fishes I have since extended to animals and plants generally, affirming that the nearest relative of any given form is usually not found in exactly the same region nor at a distance, but just on the other side of some barrier to distribution. This general rule governing the formation of distinct species by isolation or separation was afterward named "Jordan's Law"[1] by Dr. Joel A. Allen, late of the American Museum in New York, a distinguished ornithologist who has instanced many illustrations among birds and mammals.

Jordan's Law

Another phase of this parallelism I designate as the "Law of Geminate Species" — that is, of "twin kinds" — for whenever the range of a particular animal or plant form is split by a sharp barrier, the individuals on either side may ultimately be different enough to develop species technically distinct though closely resembling each other. To this fact thousands of illustrations bear witness. Notable among them are the twin forms of fishes and mollusks on opposite sides of the Isthmus of Panama, which has separated them since the Miocene

Geminate Species

[1] It is, of course, obvious that "Jordan's Law" is mine only for the sake of convenience, and because I happened to be the first one to formulate it. It exists primarily in the nature of things as a so-called "natural law" — that is, one of the many observed ways in which life proceeds. It concerns those diversities in living forms which set off what we call "species." The term has no absolute objective definition or criterion. A species of animal or plant is in its origin merely one of the many kinds into which living organisms become divided; once established, a species may then be defined as a particular series of organisms giving rise by processes of reproduction to a continuous succession of individuals not exactly alike, but so nearly alike that for the ordinary purposes of science a single name serves for a whole group.

Period. Equally striking examples may be drawn from the non-migratory birds, insects, and snails inhabiting different adjacent islands, or even separated localities on the same island. I feel little doubt that the minor qualities distinguishing species among animals and plants generally have been everywhere evolved through exigencies of separation and isolation. Natural selection enforces adaptation, isolation encourages differentiation independent of adaptation. The process of selection affects every species; it probably originates none.

Collecting in Virginia

Throughout the whole trip Mrs. Jordan rested and read in the shade on the banks of the swift, clear rivers, while we men drew the necessary nets; incidentally we both enjoyed to the full the long drives through the summer-scented "piney woods." For the most part the work took us to modest country inns. Occasionally, however, we touched at fashionable resorts. A special trip in southeastern Virginia once landed Jenkins and Meek at a seaside hotel in Norfolk. As they went to their rooms to "sleek up," Jenkins said: "Now, Meek, you want to be a little particular here. This is no backwoods joint." A half-hour later, as they sat below at dinner, Jenkins himself became the object of general attention, his curly hair being beset with tiny fishes dried in, the result of his last haul. For when a net was thrown on the far side of a stream and the catch was small, it was our custom to stow it temporarily in our hats. That time Jenkins had forgotten to remove the spoils!

On October 26, 1888, my second son, Knight Starr, was born, which happy event had necessarily post-

poned a trip to Athens planned some time before by Hoffman and myself in the joint interest of Philology and Zoölogy. There I expected to make a study of the Greek fish fauna, while Hoffman recorded the current names of the various species, with a view to comparing them with those used by Aristotle. Such an investigation, we thought, would afford an excellent means of testing the duration and modification of words in the common speech of the Greek people. It would, moreover, be peculiarly interesting, as nowhere else in the world is there available so long a record of popular animal nomenclature.

Joint studies of classic fish and fish names

As matters finally turned out, Hoffman went alone to Greece in 1890 and brought back 83 species, each with its current local name attached. Supplementing his observations, we drew on a catalogue of the fishes of Greece by the Athenian naturalist, Nicholas Apostolides, and thus secured 133 additional names. In 1892, therefore, we published jointly "A Catalogue of the Fishes of Greece, with Notes on the Names Now in Use and Those Employed by Classical Authors."

The long persistence of popular nomenclature was clearly demonstrated by our research. Thus *scorpios*, *scorpina*, and *scorpin* follow closely the classical σκορπαίνα; *bopa* and *goupa* suggest the original βόοψ, and the Italian *boga; phaggri* the more ancient πάγρος, whence comes *pargo* in Spanish and "porgy" or "pogy" in English.

One interesting item verified the curious observation made by Aristotle only, that the fishing frog βατράχος ὁ ἅλιος has the gall bladder attached to the intestines at some distance from the liver, and connected with it by a duct.

A village lost

With the year's end I resumed verse writing, but of a more serious vein than in Cornell days. On one of my early visits to France I had noticed in the Index of the Auvergne "Guide Joanne," the alluring name of Vivérols, which, however, failed to appear in the text. The charm of the word — presumably from *vivum*, life, and *polis*, town — combined with a bit of mystery, suggested the theme of a Christmas greeting to my wife in anticipation of our contemplated trip to Europe. The form I chose for the verses was in slight degree an echo of the charming Provençal plaint of the old man who "never went to Carcassonne."

VIVÉROLS [1]

Somewhere in France, I know not where,
There is a town called "Vivérols";
I know not if 'tis near or far,
I know not what its features are,
I only know 'tis Vivérols.

I know not if its ancient walls
By vine and moss be overgrown;
I know not if the night owl calls
From feudal battlements of stone
Inhabited by him alone;

I know not if mid meadow lands
Knee deep in corn stands Vivérols;
I know not if prosperity
Has robbed its life of poesy;
That could not be in Vivérols,
They would not call it Vivérols.

[1] At the special request of Edmund Clarence Stedman this poem appeared in his "American Anthology." There the first line, originally written as here given, was changed by me to

"Beyond the sea, I know not where."

Perchance upon its terraced heights
The grapes grow purple in the sun;
Or down its wild untrodden crags,
Its broken cliffs and frost-bit jags,
The mountain brooks unfettered run.

I cannot fancy Vivérols
A place of gaudy pomp and show,
A "*Grand Etablissement des Eaux*"
Where to restore their withered lives
The *roués* of the city go;

Nor yet a place where Poverty
No ray of happiness lets in;
Where lingers hopeless beggary
Mid scenes of sorrow, want, and sin;
That could not be in Vivérols,
There's life and cheer in Vivérols!

Perchance among the clouds it lies
Mid vapors out from Dreamland blown,
Built up from vague remembrances
That never yet had form in stone,—
Its castles built of cloud alone.

I only know, should thou and I,
Through its gray walls of crumbling stone
Together wander, all alone,
No spot on earth could be more fair
Than ivy-covered Vivérols!
No grass be greener anywhere,
No bluer sky or softer air
Than we should find in Vivérols,
Together find in Vivérols.

Love, we may wander far or near,
The sun shines bright o'er Vivérols;
Green is the grass, the skies are clear,
No cloud obstructs our pathway, dear;
Where love is, there is Vivérols—
There is no other Vivérols!

3

In the summer of 1889 I carried westward our studies of river fauna. Accompanied again by Mrs. Jordan and assisted by Evermann, Fesler, and Bradley M. Davis — the last two being Indiana University students who later followed me to Stanford — I set out to explore the rivers of Colorado, New Mexico, and Utah. The number of species in these streams is very much less than in the Alleghenies, because of their isolation from the centers of distribution and their greater elevation, two factors which exclude the great body of American types so numerous in the limestone belts of the Mississippi Valley.

In Colorado

In the course of the work we went into almost every county of Colorado and along innumerable trout streams, the haunts of the state's four species of native trout, all descended from the Cutthroat [1] — *Salmo clarki* — of the Northwest. These are (1) the Greenback — *Salmo stomias* — of the Arkansas and Platte (2) the Rio Grande Trout — *Salmo virginalis* — (3) the Colorado River form — *Salmo pleuriticus* — and (4) the superb Twin Lake Yellow Fin — *Salmo macdonaldi.*

A splendid find

The discovery of the last species was the most interesting scientific episode of the summer. Visiting Twin Lakes, a glacial excavation in the midst of the Saguache range and separated into two parts by an old moraine, we found the common Greenback to be very abundant there. As we were pre-

[1] "Cutthroat" refers to the deep red blotch under the throat which distinguishes this species (and its several derivatives) from all other forms. The cutthroat mark is the sign manual of the tribe of Sioux.

paring to leave, an enthusiastic young angler, George R. Fisher, — then of Leadville, — told us that another trout we had not seen, a great big fellow with yellow fins, lived in the depths of the lower lake.

Twin Lake Yellow Fin

Though decidedly skeptical, I was nevertheless induced to go out before sunrise in search of a new species. To my delight we caught some half-dozen fine large specimens weighing from eight to ten pounds. At a hint from Marshall Macdonald, then the excellent United States Commissioner of Fisheries, we named the new form for him, though the appellation I had originally in mind would have forever associated it with the high cliffs and eternal snow of the Saguache range, several peaks of which exceed 14,000 feet. It was years before *macdonaldi* was again brought in by a naturalist. Recently, however, it has been successfully introduced into France from eggs sent out from the Mount Massive hatchery near Leadville.

Uncompahgre Pass

Of the many majestic beauties of Colorado, we were most impressed by the Uncompahgre Pass, which leads across the great Continental Divide from the huge amphitheater of red rock about Ouray southward to the impressive, dark, and crooked canyon of the Rio de las Animas Perdidas, "the river of lost souls." Every foot of the way from Ouray over to Silverton and Durango is wild and grand to a superlative degree. Through Lost Souls' Canyon we went on the top of a freight car, a position which insured a succession of unobstructed views.

At Alamosa, on the headwaters of the Rio Grande in the Sangre de Cristo Mountains, we met a livery-

man who was the best teller of cowboy stories in my acquaintance. Full of information concerning the days of the cowpuncher, the round-up, and the *rodeo* or branding, he looked with scorn on newer methods, ranges set off by barbed wire, and stock rounded up with "nubbins of corn." One of his dramatic tales concerned a boy whose parents had been robbed and killed by marauding Indians, though he himself was saved and adopted into the tribe. Years afterward, while employed as waiter in the Harvey Eating House at La Junta, he recognized among the passengers of an overland train the slayer of his parents — a renegade white who had led the Indian band. And on the youth's testimony, confirmed by others, the murderer was convicted.

Lost arts

From Manitou Springs I walked to the summit of Pikes Peak — not a difficult task, though the mountain is 14,147 feet high. But the view is not greatly impressive, as the top is very wide and without precipices.

From Colorado we crossed to Utah, refreshing my knowledge of the fish fauna of the Great Salt Lake basin and greeting again my Mormon acquaintances. The political crisis was then past, and people talked no longer of crushing out polygamy by force of arms or confiscation of property. In the absence of martyrdom the system was already dying a natural death.[1]

Utah again

4

Having barely reached home, I was asked by Macdonald to explore the rivers of the Yellowstone Park with a view to finding out which already

[1] See Chapter IX, page 233.

contained trout and into which they might well be introduced — an investigation arranged for at the request of Captain F. A. Boutelle, U.S.A., the local commandant. On this expedition I had the invaluable assistance of Gilbert and, as a volunteer, of Spangler, then librarian of Indiana University. During the course of a month we made a fairly complete ichthyological survey of the whole park, mapping and photographing the streams and listing their fishes.

Government investigation in the Yellowstone

It was a proud day when I set out from Mammoth Hot Springs at the head of a train of sixteen Indian ponies, locally known as "cayuses" and all carefully chosen, as we had stipulated with their owners that the first one to buck should be shot. Accompanying us were three vigorous guides led by the well-known Elwood Hofer, and an admirable cook. Our course lay first along the left bank of the Yellowstone to the Great Falls and the Lake, thence across to Heart and Shoshone lakes and the headwaters of the Lewis Fork of the Snake, next down the Firehole with its four amazing geyser basins to the Gibbon, then over to the Gardiner, and from there back to Mammoth Hot Springs. Progress was often obstructed by complicated tangles of "down timber," the distressing aftermath of old fires followed by winter storms, but at night we camped in grassy glades with which the forests are interspersed.

A painted chasm

Of all the noble scenery included in our great country, that of Yellowstone Park seems to me the finest. With the most beautiful of our mountain waterfalls set in a majestic painted gorge, a multitude of charming lakes both large and small, dark forests and symmetrical peaks, it is also everywhere per-

vaded by the strange fascination of its spouting springs. A mighty mass of not wholly cooled lava which buried to a great depth the former topographic features of the region, it shows all the conceivable phenomena which superheated steam can produce. Among these are the highly varied geysers and hot springs, and the resultant decomposition, bleaching, and coloring of the cliffs. Of the geysers we most enjoyed Old Faithful, which then exploded regularly on the hour, never varying a minute and never missing a shot.

"Story of a Strange Land"

But for a description of the thousand charms we daily encountered the reader must look elsewhere. In "The Story of a Strange Land,"[1] I tried to do the park some slight justice, and in our formal report to the United States Fish Commission may be found the record of what we saw and the problems we tried to solve.

A curious foreshadowing

During our investigations we had the sympathetic help of Captain Boutelle. In one of our friendly talks he showed me the first preliminary circular of Stanford University, which I had not then seen. In the course of a conversation as to what such an institution might accomplish, entering on its work, as it would, with ample endowment and absolute freedom from tradition, the Captain said: "If Governor Stanford puts you in charge, I'll send my boy Henry right away" — neither of us dreaming, of course, that anything of the sort would happen. As a matter of fact, however, two years later I found myself president of Stanford University, with Henry a member of the freshman class. Afterward, when the Spanish War called eighty-seven of our students

[1] "Science Sketches," second edition. A. C. McClurg & Co., 1894.

to the colors, young Boutelle was one of the two Stanford men who fell in the Philippines.

All the park streams are clear and cold, plunging with high waterfalls off the edge of the lava plateau into deep ravines worn far back by their attrition. Most of them we discovered to be entirely barren of fish life in their upper reaches, because no fish can surmount their sheer cataracts. There were, however, a few notable exceptions which made the problem of distribution a peculiarly interesting one. This we first encountered in Lupine Creek, a tributary of Lava Creek, a large stream in which, as well as in Lupine, trout abound both above and below a waterfall. Lava, moreover, presents a series of cascades quite impassable by fish.

Barren streams

But the solution was not far to seek on lines already familiar. In my address on the dispersion of fresh-water fishes before the Indiana Academy, I had suggested that lakes — permanent or temporary — on watersheds may act as agencies for the transfer of individuals. It was therefore with a certain amount of justifiable confidence that we set out on a piece of special exploration. Ascending Lupine Creek, we reached a marsh through which, in time of high water, it must obviously interlock with Black-tail Deer Creek, a direct and larger tributary of the Yellowstone, which drops into the valley without a cascade. The waters of Lava Creek reach the Yellowstone by way of Gardiner River below its high, obstructing Osprey Fall, while both Gardiner and Black-tail Deer enter the main river below the Great Fall, and where trout are naturally abundant. From that point, therefore, they have an easy run

Lupine Creek

to Lupine Creek. As to Lava itself, we were informed that a similar connection existed higher up between that and Black-tail Deer Creek.

Yellowstone River

But the crucial test of the problem concerned the Yellowstone River, a glorious stream well stocked with Cutthroat both above and below its superb falls, the one of 110, the other of 310 feet. The probable explanation of this anomaly had been previously indicated by the results of early official topographic explorations, but lack of time then prevented our making any attempt at verification by following the river to its headwaters outside the park. In 1891, however, the whole matter was definitely cleared up by Evermann, who made a special trip with that end in view.

Two Ocean Pass

Out of Two Ocean Pass, a flat meadow in the plateau of the same name on the Continental Divide, flow Atlantic and Pacific creeks, both well stocked with trout and permanently connected by a cross stream; the former runs northeastward to the Yellowstone, the latter southwestward to the Snake, the main tributary of the Columbia. These facts explain why trout are found in the Yellowstone above falls which no fish could possibly surmount — also why they are identical with the Cutthroat, the common species of the Columbia and all its tributaries. As for their presence in the Yellowstone below the falls, and in the rest of the upper Missouri drainage as well, we have no absolute data. It is, however, not impossible that trout or trout eggs may at times pass over falls unscathed. It is possible, also, that other Two Ocean waters will be found when our mountains are adequately examined.

In South America two large-scale examples of

similar connecting river basins have long been recorded. In Venezuela the Rio Cassiquiare connects the Orinoco near its head with the Rio Negro, a large tributary of the Amazon. In like fashion in western Brazil a cross-stream joins the Rio Tapajos of the Amazon drainage with the Paraguay of the La Plata basin. Across these marshy uplands a fish readily makes its way. It is also reported that during the war they were utilized for a hostile purpose, a matter to which I may revert in later pages.

According to popular idea each animal species has been somehow placed in the surroundings best suited to its development. On this theory failure to fill with trout the crystal streams of Yellowstone Park must be regarded as a strange oversight on the part of Mother Nature. The real fact is that each species enters and occupies every attainable favorable environment, though access to the best is often debarred. Pursuant to our report, the Eastern Brook Trout — *Salvelinus fontinalis* — the European Brown Trout — *Salmo fario* — and the Shasta Rainbow of California — *Salmo shasta* — were soon introduced into all the important Yellowstone Park waters.

Bringing in new trout

Another interesting problem in fish dispersion with which Evermann and I have had to deal concerns the three species of Golden Trout developed in the Kern Basin of the High Sierra. Each of these three is a result of the long-continued isolation of a group of individuals shut away from the mass of their fellows. In the upper reaches of the Kern, three of its tributaries — South Fork, Soda Creek, and Volcano Creek — were suddenly blocked thousands of years ago by a long, continuous dyke of

Problem of the Golden Trout

lava over which each stream then dropped perforce in a high, vertical waterfall. That was a topographic change which has ever since effectually prevented free fish migration between the main stream and the three tributaries. As a result, in the upper reaches of each of the latter has developed a special trout of singular beauty of color, quite distinct from the other two and very different from the big, profusely spotted Kern Rainbow — *Salmo gilberti* — found in abundance below the falls. Complicated and difficult cascades trout will worm up somehow, but any considerable perpendicular drop gives no leverage for caudal fin and acts as a positive check. In such cases the upper reaches of Sierran streams are naturally barren except where the trout antedate the fall.

Species formed in isolation

The trout of the South Fork I described in 1892 as *Salmo aguabonita* — a curious misnomer due to the fact that the types were mistakenly reported to have been taken in Volcano Creek above Agua Bonita Falls. But the subsequent exploration conducted by Evermann and his party (undertaken at Roosevelt's request on the instance of Stewart Edward White) showed that *aguabonita* really belongs to the South Fork. The true Volcano Creek form Evermann named *Salmo roosevelti*, and the Soda Creek form *Salmo whitei*. Collectively, the three species are known as the Golden Trout of Mount Whitney, all being bright golden, spotted with black, with orange fins and an orange stripe along the side. All are also dwarf, maturing at six inches.

The fiery hues of the Golden Trout are presumably perpetuated by natural selection, as the bottoms over which they hover are of bright granite and

quartzite, red and gray. But whatever the cause, protection from an osprey or kingfisher looking down into the shallow, open ripples must be fairly sure.

Another case of seemingly anomalous dispersion relates to the presence of the Lake Tahoe trout — *Salmo henshawi* — in the plateau tributaries of the Feather River, a large stream emptying into the Sacramento. After careful consideration of Plumas County dykes, I was prepared for a topographic explanation of the problem. Fortunately, however, I met Mr. Pratt, a local resident, who had himself carried *henshawi* from the Truckee, the outlet of Tahoe, and put them in the headwaters of the Feather at Prattville. Recent operations of the Fish Commission have scattered alien species throughout California, so that the Eastern Brook Trout and the European Brown Trout, celebrated by Izaak Walton, now also abound in the Feather, in addition to an indigenous Rainbow. On the other hand, in 1913, I found the Shasta Rainbow on sale at Arlon in the hills of Belgian Luxembourg.

Helping nature out

CHAPTER FIFTEEN

I

THE summer of 1890 Mrs. Jordan and I spent in Europe, Professor Jeremiah W. Jenks of our chair of Economics being my associate in conducting a group of students and friends on lines similar to those adopted in earlier tours.

Landing at Antwerp, we crossed by a fabulously uncomfortable boat to Harwich and then proceeded northward with only brief stops in England and Scotland, as Norway was our first objective. At Edinburgh we embarked in threatening weather for Bergen. This trip, one of the most disagreeable in all my experience, is perhaps worth noticing for the lesson it affords. With the *Britannia*, a long, slim, unballasted craft operated by an engine far too large, so that it shook the vessel from stem to stern at every movement, all else had been sacrificed in the interest of speed. Tossed by a terrific storm in the cross currents of the offshore islands of Norway, she was almost helpless. Passengers and crew — including the captain, who said he had not been sick before for forty years — all succumbed; the trip, moreover, was prolonged to over double the scheduled time. The next day the Bergen papers discussed the *schaking* which had made this experiment in swift transit so distressing. The following summer we saw a brief notice of the *Britannia's* wreck and loss, though it appeared that by some lucky chance all aboard were saved.

"Schaking" on the Britannia

Norway I myself had already twice visited, but

to my wife and our companions it was new ground. We went not only to my old haunts, the fjords of the Hardanger, but also to the inlets of the greater but less picturesque Sognefjord to the north. From Laerdalsören we drove in the quaint *stolkjaerre* up the long road past Mariestuen to the bleak summit of the Dovrefjeld, the backbone of Scandinavia, gray with reindeer moss and dwarf birches. We also sailed up the deep and narrow Naerofjord, the vertical walls of which hug each other so closely that ships cannot enter in the season of snow for fear of avalanches on either side. *Fjord and fjeld*

From the head of the Naerofjord we ascended for luncheon to the neat little inn of Stallhjemskleven, which commands one of the noblest views in Norway — the dark and narrow Naerodal shut in by abrupt mountains. Some thirty guests in all, mostly American and British, had gathered there that noon. But the host announced that as the yacht of the German Emperor had anchored in the fjord and the Kaiser had ordered luncheon for his party, he must ask the rest of us kindly to wait until the others finished. *Majestät* and suite were accordingly first cared for, next the marines who had escorted them from the boat — hungry Anglo-Saxons meanwhile sitting around outside, freely expressing their opinion of Prussian etiquette and courtesy.

When the imperial group at last entered the drawing-room for coffee and cigarettes, we had an informal view of the Kaiser, who smiled upon us with proper condescension. He seemed to me a rather good-looking young fellow, enjoying self-appreciation on a fine holiday. At home he had just succeeded in "dropping the pilot," Bismarck, and *The Kaiser at Stallhjemskleven*

had taken the wheel himself. This was my first and only view of a man for whose personality and political career I held from the beginning a profound distrust, as my friends can readily testify.

Odde and the Skjaeggedal

Returning from the Naerofjord to Bergen, we followed the inlets of Hardanger up to Odde, the finest excursion center in all Norway. From this point a boatman bearing the picturesque name of Ivor Strand rowed us over to the mouth of the Tysse (the stream draining the Skjaeggedal), whence we made on foot a visit (my third) to the Skjaeggedalsfos, the most superb waterfall in Europe. For the return to Odde we walked across the wonderfully impressive mountain pass Mørfaldscardene, which towers above the town — the long snow mass of the Folgefond, parent of many glaciers, fronting us across the Sørfjord all the way. Next day we went up the Eidfjord and Maabø River to the magnificent Vøringsfos, passing on the way the deep glacial lake, Eidfjordsvand, surrounded by high polished cliffs which our landlord had warned us were "very periculose."

On foot to Stor Ishaug

Mrs. Jordan and I now left the party at the Føsli Inn at the head of the falls, and started on foot for the reindeer pastures high above, where we spent the night at a *saeter* or châlet called Stor Ishaug — "Great Ice Hill." This was a memorable excursion. Crossing the river Bjørkli on a wavering plank suspended by wire a few feet above the churning torrent and only a short distance from the 520-foot drop of the falls, we cheerfully ascended on and on over wide pastures carpeted by the dwarf birches — *Betula nana.* These tiny treelets cover millions of acres throughout subarctic Europe, Asia, and

America. With a trunk from two to five inches in height, each puts out rarely more than three leaves, in the uppermost of which is enclosed, as in a hand, a wee catkin of flowers.

Birch gradation

Birch gradation is one of the most interesting botanical features of the Far North. Everywhere at sea level and to the south, the varying species of *Betula* grow into trees. Northward and upward, with increasing cold and shortened summers, bushy forms come in, to give way at last to the dwarfest of all trees, the mosslike form of high altitudes and of the Far North. A similar degeneration occurs among the willows, though the least willow is much larger than the smallest birch. Higher up than either grows the reindeer moss, a dry, coarse, gray, lichen-like plant, tasteless no doubt, but satisfying to the beast that feeds upon it.

At Stor Ishaug we were hospitably received and regaled on the thickest and sweetest of cream, one of my former specialties. The next morning we descended the great cliff walls which, with magnificent views of lakes and waterfalls, lead down to the Simodal, and there we rejoined our friends to row back with them to Eidfjord and thence again to Odde for the last time.

A moonlight drive

The final lap on land took us by *stolkjaerre* for several hours through superb fir forests flooded with moonlight, past three exquisite waterfalls that drop simultaneously on opposite sides of the road, across which their mists commingle. These are the Lotefos and Skarsfos on the left, and the still more beautiful Espelandsfos on the right. I shall never forget the rapt expression on the face of our *skydsgut* (postboy) as he pointed out the three, dwelling on their so-

norous names as though he loved them. All together it was a rare experience, lasting until nearly midnight, when we reached our destination — Sand — and took a little steamer bound for Stavanger, at which place we said goodby to Norway.

House of the Thousand Terrors

On the Continent we visited a number of quaint, charming places in Holland and Belgium with which I was already familiar. But wishing to show my wife the noble old monuments of the Netherlands' history, I met with one disappointment in Rotterdam. For on former visits to that city I had been strongly impressed by an old house which stood at the northwest corner of the Groote Markt overlooked by the benign statue of Erasmus. Its windows were of medieval type, each one being made of heavy convex circlets of glass like bottle bottoms. Its roof had sagged, its corners slumped, and it bore every evidence of great age and trying experience. Over its door was the inscription, IN DUIZEND VREEZEN — "In a Thousand Terrors."

In that house in the year 1568, when the Duke of Alva was terrorizing the Netherlands, a group of Calvinists sought refuge from the Spanish troopers. Killing then a number of goats, they placed the bodies behind the partly closed door so that it could not be easily pushed open, while at the same time the blood of the animals oozed out into the street. By this device they saved their lives; for the Spaniards, finding the door blocked by what they took to be human corpses, thought that massacre had there already done its perfect work. But to the cowering inmates the night was full of a "thousand terrors."

In 1890 the house was no longer to be found. It had, in fact, been torn down at last to make way for a commercial structure. Several other historic Dutch buildings had shared the same fate.

Linguistic experiences

In Antwerp I one day asked a passing soldier the way in what I thought respectable French. He snapped back: "*Je ne parle pas flamand.*" But my *amour propre* was soon restored. Entering the great post office, I saw an aristocratic English gentleman accompanied by a very handsome daughter, trying vainly to make himself understood at the *poste restante*. Sympathizing with him in his dilemma, I intervened as politely as possible and made the required translations on both sides. After all was amicably settled, the gentleman bowed graciously and said: "You speak English most remarkably well, sir." Later, going down the Rotterdam shore of the River Maes, I had occasion to cross over to the other side. Spying a boatman, I sprang my usual swift formula — "*Parlez vous français? Sprechen Sie Deutsch?* Do you speak English?" The boatman drawled out: "I reckon I can tackle some of 'em; I'm from Maine."

The Passion Play

From Belgium we found our way to Cologne, up the Rhine to Bingen, across to Munich, and thence to Oberammergau to see the Passion Play. Like most other visitors, we were deeply moved by the rare beauty of the spectacle and the admirable art, dignity, and reverence with which the whole drama was performed. Moreover, the German text seemed to me to have real literary merit. I was especially impressed with the wood carver, Joseph Mayr, who took the part of Christus. He is a masterful man of great stature and unusual physical strength,

simple-hearted and modest as becomes one who assumes not only the dress but the name and figure of the Saviour.

Mrs. Jordan and I were lodged with the chief of the money changers in the Temple. The eldest daughter of the house, then fourteen years old, was called Magdalena, perhaps in the hope that sometime the part of Mary Magdalen might fall to her. In 1890 she led the girls in the tableau of the manna.

Of the many delightful days in Switzerland, and later in Verona, Venice, and Milan, I need again render no account. But while the others were on their way to Rome and Naples, my wife and I followed up the valley of the Po and thence westward to Courmayeur on the south side of Mont Blanc. From here we ascended the majestic "Allée Blanche," the "white lane" on the south side of the great mountain from which it appears, as Humboldt averred, like a gigantic white "artichoke surrounded by its leaves." Perhaps no view of Mont Blanc is more impressive than that to be enjoyed from this little-frequented Italian side.

The Allée Blanche

Leaving Courmayeur after an unforgetable day, we drove down the Dora Baltea to Aosta again, thence up the mountain side to St. Rémy and on to the bleak Pass of the Great St. Bernard, on the summit of which stands the famous Hospice established by Bernard de Menthon upward of a thousand years ago. Here we spent a shivery afternoon and night in the cold stone building by the side of a colder lake. The spacious refectory, however, was partly warmed and in an austere way attractive, while the brothers were distinctly friendly. Outside, the great dogs, headed by the splendid

A mountain refuge

"Jupitère," expressed their noisy interest in all comers.

During the afternoon many travelers arrived, among them an Italian peasant with his wife and young daughter, a child four years old. Thinly clad in their summer best, they toiled up the steep path in blinding snow which chilled them through and through. Indeed, the little girl, who held a toy horse grasped tightly in her hands, seemed almost numb. But friendly arms reached out to carry her into a corner by the fire. Soon all three, warmed and fed, were started out on the path leading down to their valley home. A simple act of ordinary human friendliness, you may say. Yes; but none the less touching, and a symbol of a life of self-sacrifice. For during nine or ten months of the year things at the Hospice take on a sterner cast. Tempests are then almost incessant, making travel over this route between Italy and Switzerland a perilous matter. Before the war large numbers of Italian laborers employed on German farms during the harvest passed regularly this way each year on their journeys to and fro. These and others were often overcome and lost in the snow, but no matter how violent the tempest, dogs and monks are always there to succor and to save. Life at the Pass is thus terribly trying, and after a few years of it most of the brothers are forced to leave and go down to the refuge at St. Rémy, while younger ones take their places above.

A life of devotion

Joined at Aosta by Jenks and the rest of his party on their return from Rome, we ascended the valley on the south side of the Matterhorn to Val Tournanche and Le Breuil. Arranging then to walk over

Val Tournanche

the Matterjoch, we engaged as guide Césare Carrel, brother of the noted Jean Antoine Carrel, who was so long associated with Whymper and was, in fact, the first to ascend the Matterhorn from the Italian side.

On the Matterjoch

The Matterjoch trip ordinarily involves merely a long climb across snow fields, tedious enough but offering neither difficulty nor danger. Soon after we left Le Breuil, however, a heavy rain set in; as we proceeded, it became a blinding snowstorm. Struggling along with increasing difficulty, we finally reached the little inn of Saint Théodule on the top of the ridge, a modest stone hostelry of two structures. One, the original rude cabin, sheltered the guides and the family of our host. The other marked two distinct periods of growth, for it consisted of a fairly comfortable, heated room where meals were served, and another section made up of narrow bedrooms, each with a small window and outside door, but no inner connections.

Snow-bound in August

With our arrival and that of two English mountaineers who had also sought refuge from the weather, the little inn was crowded to the utmost. It was, however, plain that no one could go farther until the tempest should pass. We accordingly disposed ourselves as comfortably as possible, trusting that by morning it might have cleared. But the storm proved to be one of the severest known for years in early August, and during it several mountain climbers lost their lives — among them Jean Baptiste Macquignaz, Tyndall's favorite guide, praised by him for his "high boiling point." Fortunately for us we were sheltered and fed, though snowbound for three nights and nearly three days. And each morning we had literally to be dug out, as the snow would

be piled high above the tops of windows and doors; and the ladies were borne to breakfast through a white tunnel, on the backs of our stalwart men. The long days we passed in the crowded dining room, a single pack of cards doing gallant duty.

A dazzling world

On the third morning the clouds broke, letting in the sun and revealing a world of dazzling brilliancy. For those who know how great mountains look under similar circumstances, no description is needed — for others no words of mine would be adequate. But we dared not linger; besides, the food had given out at breakfast. So we started in soft snow, knee deep, to make our way laboriously down toward Zermatt, hidden, or so it seemed, not far below the fog which held us still denizens of the empyrean.

An amazing disclosure

But suddenly the white floor split, disclosing a fearsome rift, half a mile deep, green and dark, while at the bottom, far, far below, we saw Zermatt, hotels and houses looking like tiny gray dots on a vivid map. The effect was that of the sudden yawning of a gigantic chasm in what had before appeared only low-lying fog over solid ground.

2

In the spring of 1891 I was suddenly called upon to make a momentous decision, profoundly affecting the remainder of my life. Early in March, in connection with the dedication of a new science building, I had gone to the University of Illinois at Urbana to give an address on the function of the State University.

Function of the State University

In my discourse I maintained that the normal development of the university system in America is democratic; further, that democracy has

no more insistent need than for men of thorough training; and, finally, that the right method of fostering higher education is for the people to build and support their own universities. This doctrine I had been preaching for seven years in Indiana. While expounding it before the Illinois audience, I was handed a telegram from Andrew D. White, "Decline no offer from California till you hear from me."

White's telegram

Reaching Bloomington at five on Sunday morning, I met on the street one of our trustees, who said: "The Governor of California is over at the National Hotel and wants to see you." It then appeared that Senator and Mrs. Stanford had arrived in their private car the day before, and were awaiting me at the hotel.

Leland Stanford and his errand

My first impressions of Leland Stanford were extremely favorable, for even on such slight acquaintance he revealed an unusually attractive personality. His errand he explained directly and clearly. He hoped to develop in California a university of the highest order, a center of invention and research, where students should be trained for "usefulness in life." His educational ideas, it appeared, corresponded very closely with my own. Indeed, from President White he had been assured that I was the man to organize the institution he contemplated.[1]

He then went on to explain that since the formal founding of Leland Stanford Junior University in 1886, only buildings and land had been given, but that practically all the joint property of himself and wife, valued at more than $30,000,000, would

[1] See "Autobiography of Andrew D. White," Vol. II, page 447.

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ultimately form the endowment. Should Mrs. Stanford outlive him the bulk of the property would be willed to her, that she might still have the honor and enjoyment of giving, and not sit idly by while others administered the finances. I refer specifically to this chivalrous attitude on the part of Mr. Stanford, as it shaped the early history of the university endowment. He further stated that the board of trustees, already appointed, would remain without function during the lifetime of either founder, unless specially called upon to serve.

In conclusion he offered me the presidency of the institution at a salary of $10,000.

While I went home to discuss the matter, Mrs. Stanford and her faithful secretary, Miss Bertha Berner, attended service in a neighboring church. There a student preacher discoursed somewhat vigorously on the wrath of God. At the end, he approached the two ladies to ask if the five-dollar goldpiece Mrs. Stanford had put into the contribution basket was perhaps dropped by mistake. She reassured him on this point, but said she was not acquainted with the God he had talked about; the One she knew was "a God of Love, who pities them that fear him, even as a father pitieth his children." *A God of Love*

After a short consultation with Mrs. Jordan, I decided with some enthusiasm to accept Mr. Stanford's offer in spite of two apparent risks. As to the first, California was the most individualistic of the states and still rife with discordant elements. Secondly, the new institution was to be "personally conducted," its sole trustee a business man who was, moreover, active in political life. But the possi- *Offer accepted*

bilities were so challenging to one of my temperament that I could not decline.

First visit to Palo Alto

It was then arranged that Stanford University should open on the first day of the following October. Meanwhile I was to make a brief preliminary visit to Palo Alto to look over the ground and adjust necessary details. Until June I was of course in the service of the University of Indiana, but at Easter time Mrs. Jordan and I found it possible to pass several days with the Stanfords. On the way we spent a few hours in Los Angeles where I hired a horse and carriage to go out to see the desert flora, so conspicuous and interesting to me in 1880. But the desert was gone — much of it covered by the expanding city, the rest obliterated by cultivation and irrigation.

At Menlo Park, then the nearest station to the university, we were cordially entertained, and the surpassing beauty of the Santa Clara Valley just as the rainy season came to an end made an indelible impression on our minds. To Dr. Jenks I wrote that the estate seemed "like a semi-tropical Vossevangen," for the Sierra Morena, its background, reminded me strongly of the mountains guarding that charming Norwegian village. At the University, the beautiful Inner Quadrangle (of which I shall have more to say by and by) was completed except for doors and windows. After a general survey of buildings and grounds and a full discussion of ways and means, I returned to Bloomington full of confidence and anticipation.

Following the public notice of my appointment, I received many letters of congratulation and multi-

tudes of applications for positions in the new institution, these last in addition to some thousands of others already classified and stowed away in a trunk at the Stanford residence in San Francisco. But the Senator had quizzically advised me to select my faculty before examining the documents, as they might be confusing. I took the hint, and never even opened the trunk, which was destroyed with all its contents in the earthquake-fire of 1906.

Secretary Elliott

In great need of immediate help I was fortunate enough to secure at once the services of Dr. Orrin Leslie Elliott, a young man of discretion and scholarship, formerly secretary to President White, then instructor in English and assistant registrar at Cornell. In his hands I placed my enormously swollen correspondence, at the same time appointing him registrar of the university which was to be — a position he has continued to hold for thirty years. I now proceeded to select others as the nucleus of a faculty, naturally turning first to men who had been thoroughly tested — Branner, Campbell, Gilbert, and Swain. I next prepared a preliminary announcement entitled "Circular No. 3." Numbers 1 and 2, already published by Mr. Stanford, contained respectively the deed of gift and the addresses made at the laying of the Quadrangle cornerstone.

Guiding principles

"Circular No. 3" marked an epoch in my own experience, if not in the history of American education. In it I announced (with Mr. Stanford's general approval) certain guiding principles to be observed in the Leland Stanford Junior University. These I may here briefly summarize.

The first aim would be to secure and retain teachers of highest talent, successful also as original investigators. Work in

Plan of organization of the new university

applied science was to be carried on side by side with the pure sciences and humanities, and to be equally fostered. Women and men would be admitted on identical terms. Eighteen departments of instruction were provided, all with equivalent entrance requirements, accompanied by large liberty of substitution and election, no fixed curriculum of any sort being contemplated.

The unit of faculty organization would be the professorship rather than the department. Each student, therefore, must choose a major professor who should be his adviser, and in whose department he must take enough courses to fulfill certain requirements. As minor subjects or electives, all classes would be open to any student intellectually ready for the work.

To secure the Bachelor's degree, each candidate would be obliged to satisfy his major professor and to complete enough of other approved work to fill the conventional four years. The degree of A.B. would be given in all non-technical courses, that of B.S. for work in applied science.[1]

The largest liberty consistent with good work and good order was to be granted the student. Religious services were to be provided in accordance with a clause in the deed of gift, which prohibited "sectarian instruction, but required the teaching of the immortality of the soul, the existence of an all-wise and benevolent Creator, and that obedience to his laws is the highest duty of man."

In the beginning at least, tuition was to be free in all departments, and room and board in the two residence halls were to be furnished at cost.

I may add that the major professor system, since largely adopted but then regarded as an innovation, had been for five years in successful operation in Indiana University, where it originated.[2] But there the choice of major subject was made at the beginning of the third year. In the new institution we tried the experiment of beginning with the first. At the time of this writing, Stanford has just shifted to the former plan.

[1] This differentiation was soon abandoned by the faculty, and A.B. granted as the first degree in all courses alike. In time also the unit of organization became, as elsewhere, the department.

[2] See Chapter XII, page 293.

The Indiana board, with whom (as I have said) my relations had always been most friendly, were very considerate in those days of transition. My new appointment they regarded as a significant honor and one that in a degree testified to their own wisdom and to the high standing of the State University. Among other things they asked me to name my successor and to fill all vacancies that would occur in the faculty at the end of the current year.

Coulter

As president I suggested (for the second time) Dr. Coulter, who had been for years my intellectual "running mate." In educational meetings we two had often stood together in favor of scientific studies and volitional courses, especially emphasizing the "element of consent" in education. Coulter was an inspiring teacher, a convincing speaker, and a man of genial personality, whose intellectual force was felt throughout the state. He therefore seemed to me the one best fitted for the Indiana presidency. But this office he held for two years only, resigning in 1893 to become president of Lake Forest University, soon after which he accepted the more congenial duties of head professor of Botany in the University of Chicago, the only institution of importance younger than Stanford.

Swain

Upon my further recommendation, again at the board's request, Coulter was succeeded by Joseph Swain, already for two years professor of Mathematics at Stanford. Swain proved to be a very acceptable administrative head, showing unusual tact and patience and a warm, friendly interest in the personal affairs of the students. But as a member of the Society of Friends, he was soon urged by the trustees of Swarthmore College to undertake the

affairs of that institution. To this he assented on condition that a large additional endowment should be raised. The amount being promptly subscribed, he resigned from Indiana to accept the position at Swarthmore, which he still continues to hold. He has also taken a very active part in the work of the National Education Association — of which he was president in 1914 — as well as in the movement for international peace.

Bryan

With Swain's withdrawal the board once more appealed to me. This time I advised the appointment of Dr. Bryan, under whose inspiring leadership the institution has continued to forge ahead. In one of its recent registers I note that each of the ninety-two counties of the state is well represented at Bloomington. When I became president, not more than twenty had even one student there.

In the Indiana faculty several vacancies had, of course, been created by the resignation of those men who were to follow me to Stanford. One or two others had meanwhile been called elsewhere. I therefore drew on my list of eligibles and without delay selected good men for all the vacant places.

East in search of professors

In June, at the close of the collegiate year, accompanied by Swain and Jenkins, the latter having been already appointed to the chair of Physiology at Stanford, I went East in search of more professors. We thus visited Cornell, Harvard, Johns Hopkins, and other institutions. Swain, as the reader may remember, is a giant in stature. In the Delta Upsilon Lodge at Cornell we heard an old song revived with a new allusion:

> Why is there but one Professor Swain?
> There's only room for one.

Jenkins served as a humorous critic. At the hotel in Boston, I remarked on the "great head" of water as it issued from the faucets. "Yes," said he, "there's a 'great head' on everything here." At Yale (where we did not make our presence known) we read on a moss-grown wall a notice requiring all members of the sophomore class to assemble in a certain room at a certain time on penalty of forfeiting six marks. "Now," observed Jenkins again, "if that meant six German marks, we could understand they were dealing with men and not with little boys."

An untried field

After my return to Bloomington, I started hopefully for California with my wife and children, accompanied by Dr. Elliott, Dr. George M. Richardson, professor-elect in Chemistry, and their families. It was, however, with considerable regret that I left the institution I had striven so hard to build up, and the state which had shown me so much of its good will. Moreover, though geographically and scientifically I already knew California well, from the standpoint of educational management it was for me an untried and hazardous field. So far as friends were concerned, also, we then had very few on the Coast, and we were leaving many faithful ones behind. At the farewell dinner given me by the Men's Club of Indianapolis, at which I was asked to sum up my views of higher education, I closed with the following: "I am going away expecting to ride a very high horse. If I come back on foot, I shall hope to find you still friendly and hospitable." But as I had previously written to Dr. White, I was prepared to take whatever came, quoting from the "Lay of Ulrich von Hutten":

Ich hab's gewagt mit Sinnen,
Und trag' dessnoch kein Reu.

With open eyes I have dared it,
To cherish no regret.

NOTE

My readers will perhaps pardon me for inserting here the following extract from an address of Dr. Evermann before the Indiana Academy of Sciences, in 1916:

"The greatest impetus ever given to zoölogical research and investigation in Indiana occurred when David Starr Jordan came to Indianapolis in 1874 as a teacher of natural history in the high school of that city. He was then a young man scarcely out of his teens, of great physical and mental vigor, with unbounded energy and enthusiasm, and already appreciative of the richness of the fauna and flora of the state.

. . . . . .

"The twelve years (1879–91) spent by Dr. Jordan at Indiana University were among the most productive of his life, not only in relation to zoölogical science in general but to zoölogy in Indiana in particular. The influence upon the state was epoch-making. The effect of training so many of its young men and women in the method of science and sending them out over the state and beyond its borders imbued with the spirit of the real naturalist who seeks truth, who sees things as they are, and who knows animals when he meets them in the open, cannot be overestimated. Many and varied were the problems in zoölogical science that these young men and women investigated, studied, and attempted to solve. They were by no means confined to the fauna of Indiana. In Ichthyology their field was world-wide. It is true, however, that the richness of the Indiana fauna appealed to many of these young naturalists, and zoölogical literature has been greatly enriched by their contributions."

BOOK THREE

1891–1899

CHAPTER SIXTEEN

I

I MUST now go back a little to catch up some loose threads in my narrative — that is, to speak of the special facts instrumental in the foundation of the university to which I had been called as head.

In the year 1885 Senator Leland Stanford, a former governor of California and one of the four builders and owners of the Central Pacific and Southern Pacific railways, made public his generous plans for a new institution of the higher learning in California. These had originated in the shadow of a great sorrow. On March 13, 1884, his only child, young Leland Stanford Junior, a lad of sixteen, died in Florence of what was then called "Roman fever." After a long and dreary night, the stricken father awoke with these words on his lips: "The children of California shall be my children." And from that moment the question was simply as to what form the noble service, transmuted out of pain, should assume.[1]

Leland Stanford Junior

For some time previous to his death young Leland had been enthusiastically gathering objects of art

[1] In the fall of 1891 it was stated in certain quarters that Stanford University had been founded under spiritualistic influences, and a claim was put forward in the name of Maud Lord Drake, a somewhat noted medium of the time, that she had been the guiding intermediary. In 1892, therefore, Mr. and Mrs. Stanford dictated to me the following statement for permanent preservation:

"Mr. Stanford made his will, looking to the endowment of the university, in Paris, April 24, 1884. Mrs. Stanford made her will also, and copies were sent to America. Mrs. Maud Lord Drake was unknown to them until they met her at a *séance* with the Grants in October, 1884. At about that time Mrs. Drake was detected in fraud." Mrs. Stanford further said: "No spirit-

and curiosity for a small private collection, the nucleus of a great museum he meant some day to give to the city of San Francisco. Naturally, then, his parents first thought of carrying out the boy's own purpose, though on a more elaborate scale, with large provision for educational facilities, lectures, and the like. The idea, however, did not satisfy them as being sufficiently generous. Ultimately Mrs. Stanford fulfilled young Leland's general intentions as a small part of their benefaction to the youth, not alone of California, but of the whole wide world as well.

Plans for endowment

The museum project being set aside, their choice now lay between endowing a university or a great technical school. If the former, should they found an entirely independent institution, or should the money be given in some form or other to the University of California? The latter alternative was soon rejected, however, because the management of the state institution appeared to be deeply entangled in partisan politics — a fact quite obvious to Mr. Stanford, as once when he had been appointed trustee by the governor, the legislature, then controlled by a clique within the Democratic party, refused to endorse his name. Though to some extent a politician himself, he felt that party differences had no legitimate concern with education. And in the end,

ualistic influence affected the decision. Mrs. Drake had no more to do with it than a babe unborn."

It is, however, true that both Mr. and Mrs. Stanford were for some time deeply interested in certain phases of spiritualism which seemed perhaps to give the basis for a demonstrable belief in immortality, a faith in which they found great consolation. Accompanied by General and Mrs. Grant they attended several *séances* in Washington, though they never received through mediums any evidence they regarded as convincing.

LELAND STANFORD, JUNIOR

JANE LATHROP STANFORD

From portraits by Bonnat, Paris, 1884

LELAND STANFORD

after consultation with White, Eliot, Gilman, Walker, and others, the bereaved parents decided to found the Leland Stanford Junior University, located in the country about thirty miles south of San Francisco, on the beautiful Palo Alto Ranch which the boy had known and loved.[1]

Laying the corner stone

The founding grant having been executed on November 11, 1886, a board of trustees [2] was chosen, mainly from Mr. Stanford's personal friends, and the corner stone of the Inner Quadrangle was laid on May 14, 1887, the anniversary of the boy's birth. A formal address was then made by the founder, setting forth the general purposes of the institution, and from that time on construction of the first buildings — the Inner Quadrangle, Engineering Shops, Men's Dormitory, and Museum — proceeded with enthusiasm and vigor.

By the winter of 1890 Mr. Stanford felt that he could now prepare for the formal opening. Naturally, also, he was anxious to see work started in his own lifetime, and he had already begun to feel the warnings of age. Moreover, as he told me, boards of trustees are often dilatory in the execution of trusts, but, a project once under way, they could not do otherwise than support it.

[1] President Eliot had warned them that a university was a very expensive thing; that they should not think of an endowment of less than five millions of dollars. But as the Senator rated his property at over thirty millions, and expected to devote it all, he thought the requirement could be easily met!

From a personal letter from Dr. Eliot in response to my request for definite information as to that interview, I quote as follows:

"Mrs. Stanford looked grave; but after an appreciable interval Mr. Stanford said with a smile: 'Well, Jane, we could manage that, couldn't we?' And Mrs. Stanford nodded."

[2] As already stated, this body was not to function during the lifetime of either Mr. or Mrs. Stanford, unless specially called upon to do so.

Seeking expert advice

In order, therefore, to proceed intelligently, the Stanfords again visited several different institutions of advanced learning—Johns Hopkins, Harvard, the Massachusetts Institute of Technology, and Cornell. Johns Hopkins pleased them especially because of its well-deserved reputation for research, while Dr. Gilman, its head, they had known and admired as president of the University of California. General Francis A. Walker of the Massachusetts Institute of Technology was one of their special friends, and as a valued adviser had spent a month with them at Palo Alto.

Cornell met Mr. Stanford's educational ideals more fully than any other institution, primarily because it gave to the applied sciences, engineering, and agriculture the same academic valuation and support as to the humanist studies, braced by equal attention to the securing of first-rate teachers. Mr. Stanford also held the opinions of ex-President White in very high esteem, having often applied to him for guidance and inspiration. On the occasion in question, he offered White the presidency of Stanford University. Concerning this matter the latter writes in his Autobiography, in part, as follows:

An offer declined

> This [position] I had felt obliged to decline. I said to them that the best years of my life had been devoted to building up two universities — Michigan and Cornell — and that not all the treasures of the Pacific Coast would tempt me to begin with another; that this feeling was not due to a wish to evade my duty, but to a conviction that my work of that sort was done.

Being thereupon asked to suggest some one else for the place, White recommended me, and the Stan-

fords accordingly came to Bloomington for the interview I have duly described in earlier pages.

2

The tall tree

The Palo Alto Ranch took its descriptive name of "tall" or "high tree" from a weatherbeaten old Redwood — *Sequoia sempervirens* — long a noted landmark for the traveler, which still stands on the bank of San Francisquito Creek, at the extreme north corner of the estate. This is about nine feet in diameter at the base, over a hundred feet high, and some 950 years old. With the opening of Stanford University it was chosen as the most fitting symbol for the official seal. Originally one of two, it sturdily withstood the freshet consequent to a very high rainfall which undermined its mate some years before our arrival. But on the basis of a count of the body rings in the fallen twin, it was possible to approximate the survivor's age.

Even as early as March 26, 1776, these two Redwoods played their part in history; for it is related that on that day Lieutenant-Colonel Juan Bautista Anza gave the name "Palo Alto" to the Indian Rancheria on the Arroyo de San Francisquito, because of a tree which as seen from a distance "rises like a tower above the surrounding trees." Thus viewed, the pair would no doubt have seemed blended into one.

The original Palo Alto property was acquired by Mr. Stanford in 1870 from the estate of George Gordon, a business man of San Francisco, who in 1863 bought out several squatters on what had been the large ranch of Antonino Buelna, the first

settler, secured in 1837. It then comprised two Spanish grants, the Rancho de San Francisquito, a level area on which the University stands, and the Rancho del Rincon de San Francisquito, comprising the hills to the southward. Later, to provide an adequate campus, Mr. Stanford bought also the "Matadero Ranch" lying to the southeast, the Coon Farm ("Adelante") at the junction of Los Trancos and San Francisquito creeks, and the "Rancho de los Trancos" (Felt Farm) higher up on the stream from which it took its name. In the original deed of gift, the whole estate, now comprising 8940 acres, was made the inalienable property of the University. And while most of it is ordinary farm land, it will ultimately have large value for residence purposes, as with the growth of San Francisco the demand for suburban homes will greatly increase.

The University estates

In addition to the campus estate, the deed of gift also ceded to the University the Vina Ranch (Tehama County) of 55,000 acres, considered the finest large farm in the state, and including a vineyard of 4000 acres in connection with which Stanford carried on experiments in wine-making, and the Gridley Ranch (Butte County) of 21,000 acres. These two properties were at first also made inalienable, but the clause concerning them was afterward rescinded by Mrs. Stanford, and all the land (except of course the Palo Alto tract) has now (1920) been sold.

On the home ranch were reared and trained the splendid horses in which Stanford delighted, and in the breeding and training of which he had for years been deeply interested. Planning beforehand the theoretical type he wanted, he bred to that ideal

HORSES ON THE PALO ALTO RANCH

standard. His method was to cross the Kentucky racehorse, sleek, slender, and fine-limbed, with the large and strong British "Thoroughbred," reputed to be descended from Arabian stock. In this effort he was wholly successful, several of his animals carrying off the highest honors of their time. To their owner they seemed almost human also, so thoroughly did he understand and love them. Sunol, a famous young mare, was relinquished for $40,000, but the sale (in 1892) of Arion, the superb young stallion, at $125,000, was a real grief to him; indeed, he had purposely set the price at what he thought a prohibitive figure. He afterward refused $150,000 for Advertiser, an older stallion, announcing him as "not for sale." Palo Alto, a magnificent creature which had trotted a mile in 2.08¾ on November 17, 1891, he declined to let go for the sum of $100,000, declaring that a million would not buy him! And when Palo Alto died, in July, 1893, most of us felt it in some sense a personal loss.

The fine art of horse breeding

Stanford used to spend hours at a time watching the horses as they sped around his private track. Thus absorbed one day, the thought came that it might be possible to make an elaborate series of instantaneous photographs which should record in detail the several stages in the fleet movements of a racer. To that end, he secured the services of Eadweard Muybridge, a clever English photographer, who by a special device produced a long succession of pictures disclosing each motion in trotting and running. Those experiments made earliest use of the methods out of which has been developed the cinema or moving-picture film. The details in human progression also were shown in a

Motions of the horse

supplementary series, the whole being privately printed.

The kindergarten

One of the interesting features of the Farm was "the kindergarten," a trotting track for young colts on which they were taught to maintain the proper gait from the beginning, and which thus served as basis for an orderly and progressive training. With a somewhat similar notion in regard to human education Mr. Stanford often dallied, imagining a school which should receive only a limited number of children and train them continuously from kindergarten to university. The suggestion stirred up a certain amount of ridicule, but it held more than a modicum of sound sense, although it overlooked the necessity of a broader range of environment for the human colt.

During Stanford's lifetime, notwithstanding the occasional sale of a record maker at a fabulous sum, maintenance of the Stock Farm was a costly experiment, even though justified by the pleasure it gave its owner and the scientific results he achieved.

Sale of the stud

After his death, pressure of financial difficulties (due to matters I shall later discuss) made it necessary in 1896 to sell the whole stud for whatever it might bring. Obviously the University was in no position to speed horses on the turf, the only method of establishing their rank in the racing world and consequently their financial value.

3

Architecturally the buildings of Stanford University are of a type happily derived, though with some difference in detail, from the Franciscan

Missions of California, that of San Juan Capistrano (as already stated) having doubtless furnished the acceptable motive.

Encina Hall

Encina Hall, a massive stone building accommodating over 300 students, though related to the rest by some characteristic details, had a different inception. In general elevation it repeats on a large scale that of a finely situated hotel at Silva Plana in the Swiss Engadine, where the Stanfords once spent a happy holiday.

The architects of Stanford University

The fortunate conception of a double quadrangle, a striking architectural triumph, is due to Charles Allerton Coolidge, a gifted disciple and associate of Henry Hobbs Richardson, the most distinguished American architect of his time. For the satisfying beauty of the Memorial Church in its original form, credit is due Mr. Clinton Day of Oakland, who was singularly successful in bringing this somewhat divergent structure into pleasing harmony with the general group.

Before submitting his designs Mr. Coolidge made a thorough study of the mission buildings still extant, as a basis for the completed plan subsequently evolved by him. His firm, Shepley, Rutan and Coolidge (successors to Richardson), now being commissioned to go ahead with the matter, Mr. Coolidge himself largely superintended the construction of the Inner Quadrangle and Encina Hall. The Outer Quadrangle, finished in 1900, follows closely, though not absolutely, the sketches originally submitted.

"The main group, composed thus of two quadrangles, one surrounding the other, reproduces on an imposing scale the open arcades, long colonnades,

The Quadrangles

and red-tile roofing of the old Spanish Missions of California, enriched by the detail and ornament of the Romanesque, which is also distinctively the style of the Memorial Church. The Inner Quadrangle consists of twelve one-story buildings and the Church, the whole connected by a continuous open arcade, and surrounding a court 586 feet long by 246 feet wide — that is, three and a quarter acres in extent. The buildings are of a rich, buff sandstone [1] which hardens on exposure and is peculiarly adapted for chiseling because of its even texture and lack of breaks." The fourteen buildings of the Outer Quadrangle, two and a half stories in height, have their arcades on the outside, so that the two sets are placed back to back, but with generous garden spaces between.

The Patio

In the large inner court are eight circular plots, each about two rods in diameter, planted with palms of four species, besides camphor trees, loquats, *Paulownia*, *Brachychœte*, *Casuarina*, and other picturesque semi-tropical forms. Of very modest growth when the University opened, they now tower almost above the buildings round about.

The Inner Quadrangle, supplemented by the Chemical Laboratory which stands apart and the necessary shops sufficiently removed, served for ten years, though inadequately, the needs of the rapidly expanding institution. The Museum, planned from the beginning as a separate unit of a different type of architecture, was placed some distance away.

To all who have ever frequented the arcades and courts of Stanford University, its founders' choice of architectural theme and material seems inspired.

[1] Quarried at New Almaden, ten miles south of San José.

INNER COURT, STANFORD UNIVERSITY, 1891

Color contrasts

The warm, sunny walls and red-tiled roofs, contrasting finely with our deep blue sky, blend into the tawny hues of the California summer, while in winter they stand out effectively against the green foothills and farther mass of the Sierra Morena. In the courts and arcades resides a special charm, peculiarly compelling at sunset or when illumined by the moon — reputed to look bigger here than in the disillusioned East. Something of all this grace I once tried to express in a little poem to my wife:

A Castle in Spain

There stands a castle in the heart of Spain,
Builded of stone, as if to stand for aye,
With tile-roof red against the azure sky;
And skies are bluest in the heart of Spain.

Castle so stately men build not again;
'Neath its broad arches, in its patio fair,
And through its cloisters, open everywhere,
I wander as I will, in sun or rain.
Its inmost secret unto me is known,
For mine the castle is. Nor mine alone —
'Tis thine, O Love, to have and hold alway;
'Tis all the world's as well as mine and thine;
For whoso enters its broad gate shall say:
"I dwell within this castle: it is mine."

The Arboretum

The University's main avenue of approach, a mile long, passes through the Arboretum, an interesting and delightful feature of the Campus. This occupies a generous tract of level ground between the Quadrangle and the state highway following the old "Camino Real," originally a bridle trail connecting the Mission of Santa Clara with that of San Francisco de Los Dolores. In addition to many fine native live oaks, the Arboretum contains a choice

collection of trees, mostly evergreen, from all parts of the world. Intermingled are many specimens of the Tasmanian Blue Gum — *Eucalyptus globosus* — a tree of very rapid growth which quickly formed a forest while the conifers (cedars, cypresses, deodars, firs, spruces, redwoods, and sequoias) were still small. Through this woodland several pleasant winding ways radiate from the Stanford mausoleum, a dignified marble structure in classic style. Near by is a curious cactus garden exhibiting interesting species from the Yuma deserts.

Palm Avenue

Along each side of the broad avenue, Mr. Stanford (at my suggestion) planted in 1893 a row of palms, alternating the fan palm — *Neowashingtonia filifera* — a native of San Diego County, with the Canary Island date — *Phœnix canariensis*. Unfortunately, for the first eight or ten years the general effect was greatly marred by the depredations of the pocket gopher — *Geomys* — an underground rodent which becomes a veritable pest in California gardens as well as in alfalfa fields. At intervals, therefore, a dozen or so plants had to be replaced in one part of the avenue, thus breaking the evenness of the series. Nearer the University, fan palms and dates give place to the Japanese form — *Trachycarpus* — and the New Zealand dracæna — *Tætsia indivisa* — known in its native land as "cabbage tree."

4

We reached our new home toward the end of June, 1891. Leaving the train at Menlo Park, I carried in my arms our little boy, being at the same time further burdened with hand baggage. This

modest arrival commended me highly to "Steve" Gage, one of Senator Stanford's cronies, who was waiting with him at the station, curious to see what manner of man I might be. When asked later for his first impression of the new functionary, Gage replied: "I guess he'll stand hitched."

A California Trianon

On the Campus there was then but one available house, a secluded furnished cottage to which we gave the name of *Escondite*,[1] "hiding place." This is a picturesque little structure with rooms arranged one after another in an L-shaped building of one story. During our occupancy, most of the walls were hung with French chintz; the whole house, indeed, was modeled somewhat closely after the Petit Trianon of Versailles. About it extended a pretty garden with fine shade trees and a good supply of water, as well as a number of fig trees and a vineyard. The vineyard yielded mainly a small light-green, seedless grape called "Sweetwater." When Knight, not quite three years old, had tasted a few of the delicious little globules, he said to his mother: "I want some more of those little pills!"

Peter Coutts

From Mrs. Stanford we heard partial details of Escondite's romantic history. It appeared that some years earlier, one Peter Coutts, vaguely known to the countryside as "the Frenchman," had bought the Matadero Ranch lying to the south of the original Palo Alto estate. Possessed apparently of considerable wealth, he built the Trianon cottage as a temporary dwelling only, pending the erection of a mansion on one of the adjacent hills. Meanwhile a spacious park was being developed along French lines, with a poplar avenue, a small pine forest, and

[1] Pronounced *Escondee'tay*.

Adorning nature

an artificial lake with a tiny island bearing a ruined castle, to enhance (as the owner thought) the charming natural features of the property. Opposite the cottage rose a plain but substantial brick building, the lower floor of which served as office, while above was housed a considerable library of Elzevirs. In the immediate neighborhood several small barns provided stalls for a hundred blooded cows, groomed regularly each day. When Stanford acquired the property, this particular corner was used for the Thoroughbreds and became known as the Running Ranch — in contradistinction to the famous Trotting Ranch, a mile away.

In vain search for enough water to supply the elaborate arrangements he contemplated, Coutts tunneled many of the hills, and built on Matadero Creek a brick water-tower of medieval type and still of romantic interest to succeeding generations of Stanford students. Unfortunately, however, there was something amiss about it all, some important matters the French Government wished to have explained. Yet the preliminary inquiry conducted by a French agent seems to have turned out satisfactorily to both sides. But with the advent of another consul in San Francisco, Coutts suddenly found it necessary to take his family East on important business, leaving the place still filled with guests and the children's playthings scattered about on the floor. Investigation then revealed that the estate had been bought in the name of Eugénie Chogensen, the "governess." Rumor further said that Coutts had fled from France with Alsatian funds entrusted to his bank during the Franco-Prussian War in order that they might escape sequestration.

Disappearance of the "Frenchman"

Be that as it may, the Matadero tract was later bought for Stanford by his agent in London from Mademoiselle Eugénie, and as already implied, became part of the university Campus.

One of our early callers at Escondite was a mining man from Nevada, a mineralogist of some ability, who walked the twenty miles from Los Gatos where he had been taking the "gold cure" to try to get rid of the snakes, "jack rabbits with ribbons on their ears," and other peculiar fauna which were beginning to haunt him. The so-called cure was apparently some salt of arsenic which exerts a powerful influence on the nervous system but is reputed too dangerous for ordinary use by physicians. Not finding his condition improved, my acquaintance had come over on a very hot day, hoping to borrow money enough to reach his home in Nevada, where he said he should kill himself. I gave both money and sympathetic advice, but never heard from him afterward. While he sat there, forlorn, dusty, and soggy, Knight entered and, taking him for a real man and a friend, walked up and offered to shake hands. It was a long time since he had been thus humanly treated, and he nearly broke down. But suddenly he pulled himself together, a great change came over his appearance for a moment, and I heard him repeating softly the words from Dickens' little poem, "The Children":

Alcoholic fauna

> I know now how Jesus could liken
> The Kingdom of God to a child.

For two years we lived picturesquely (if not with entire comfort) at Escondite, and in this quaint

cottage, a bit of France translated to California, was born on November 10, 1891, our beloved daughter Barbara, the sweetest, wisest, comeliest, and most lovable of children.

Ordered out

The evening after our arrival, going over to see how the university buildings had progressed, Mrs. Jordan and I were at first naturally ordered out by the watchman as intruders. Later I came to feel more at home in the Quadrangle than anywhere else in the world, although the first impression of us all was of being on an extended picnic in the beautiful Santa Clara Valley.

The next day I chose for the executive offices a building on the north side of the main entrance, and there Elliott, Richardson, and I used to spend the day, eating our luncheons in the shadow of the beautiful arcade. There was plenty to do in preparation for the opening; and regularly one of us drove or walked to Menlo Park, two miles away,

Pioneering

to bring back the growing bag of official mail. For there was practically nothing at what is now the city of Palo Alto, only a flag stop for the convenience of workmen employed at the University itself or about the Stock Farm. Later, as a town began to develop northeast of the railway, an old freight car served temporarily for station, to be ultimately replaced by a fairly satisfactory structure disturbed from time to time by growing pains.

When we came, a great wheatfield stretched away to the north, with only a little farmhouse and an old barn in sight. Soon, however, streets were laid out and lots plotted and sold; people began to build, a merchant and a grocer set up shop, a bank was

OUTER QUADRANGLE, STANFORD UNIVERSITY, 1903

opened, schools were established, and, behold, we had a town. A particularly good one, also, because it at once drew to itself a selected population attracted by the intellectual advantages of the University and the assurance of a clean environment for children. As to the last, every lot was bought with the accepted proviso that no alcoholic drinks should ever be sold on it. That this restriction has not been infringed without reversion to the original owner, Timothy Hopkins, as arranged for in the deeds, I cannot assert. Nevertheless, it stands in law, having been established by a test case, and as a result the community is to a large extent a picked one, with relatively little of evil influence to combat.

A prohibition town

The settlement was first called "Palo Alto Park," but it later took possession of the shorter form which really belonged only to Stanford University property, all of which lies on the other side of the railway. In 1920, Palo Alto had reached a population of 6000, and is now a favorite place of residence for men who commute daily to their business in San Francisco but prefer to live in the country and in a college town with progressive schools, both public and private.

Palo Alto is also noted for the success of its municipally owned public utilities. In the introduction and management of these, two members of the Stanford faculty, Charles B. Wing and Charles D. Marx, the former especially, have continuously given invaluable expert advice and much time, without thought of pay. Wing and Robert E. Swain have also served the town in the capacity of mayor, the latter for two terms. Others have meanwhile contributed their due share in various ways to the common good

City fathers

and often at a real sacrifice, which they would, however, modestly disclaim![1]

Saving the live oaks

The special beauty of Palo Alto (aside from climate and general surroundings) lies in its abundant growth of fine live oaks, many of which are still left standing in the less-frequented streets where they are not a menace to traffic. Apropos of this I recall with satisfaction an incident wherein I figured somewhat autocratically. Learning that a number of splendid trees near the station were likely to be cut down by road makers, quite unnecessarily as it seemed to me, I sent word that if any more were sacrificed I should close the main university gate and transact our business with Menlo Park. I had no special authority to do this, but the threat was sufficient. As a consequence "the Circle" retains much of its original beauty.

"Uncle John"

A unique figure in Stanford affairs appeared with the rise of Palo Alto. This was the famous "Uncle John," whose "surrey" plied between the station and the University. Devoting himself with zest to the enlightenment of visitors, he told amazing yarns which spread his fame far and wide. The four marble statues of Greek celebrities[2] on the Museum roof he described as great librarians, and provided for each an elaborate if not veracious history. The different university buildings he described as centers of musical instruction, a "diaploma" from this one

[1] A. W. Smith, J. C. L. Fish C. H. Gilbert, L. M. Hoskins, W. W. Thoburn, F. Angell, A. G. Warner, F. Sanford, A. T. Murray, G. H. Marx, J. P. Mitchell, A. M. Cathcart, and others. I may here mention also A. B. Clark's excellent service as mayor of the neighboring town of Mayfield while he was a resident there. For further particulars concerning the academic relations of most of these "City Fathers," see Chapter XVII, page 398, and Chapter XVIII, page 439.

[2] Thrown down in the earthquake of 1906.

or from that signifying proficiency in this or that particular instrument. Another yarn concerned the "ground squirrel" or spermophile — *Otospermophilus* — with which our region was then infested and the many holes of which were visible along the roads and by the railway. According to Uncle John, the Southern Pacific Company had ordered the holes burrowed at its own expense for the accommodation of the animals. Few ever knew his real name, which was Asa Andrews, or that he had once been a prosperous merchant in Chautauqua, New York.

5

That a flourishing little city would soon spring up just without our gates we hardly dreamed when first set down on a great country estate adorned by a group of beautiful (though empty) collegiate buildings which seemed somehow marvelously to fit their environment.

Meanwhile Escondite and Cedro Cottage, another picturesque retreat which was soon rented by Dr. Jenkins, were the only occupied residences on the Campus proper. Streets had been graded, however, and on one of them several simple frame houses for professors were being completed as rapidly as possible. Requested by Mr. Stanford to give names to the streets already finished, I decided, with his approval, to commemorate thus modestly several fine figures in the early history of California. Accordingly the line of new dwellings became Alvarado Row in honor of Juan B. Alvarado, an early governor. Next comes Salvatierra Street, recalling the Jesuit father in Mexico who first urged the

Naming the streets

founding of missions in Alta California. The road on which the Quadrangle fronts we called Serra Avenue in memory of the Franciscan padre, Junípero Serra, who built the first missions, performing marvels of energy and patience in dealing with the Indians, for whose salvation, temporal and spiritual, the work was planned. Lasuen Street is named for Firmin Lasuen, the self-contained successor of the impulsive and visionary Serra.

Other streets bear the names of Cabrillo, first explorer; of Portolá, first governor; of Arguello, a later one; of Padre Crespi, historian of Portolá's expedition; of Costanzo, its civil engineer; and of Flores and Rivera, two of its officers. For it will be remembered that the gallant Gaspar de Portolá had come up the coast from Monterey, seeking the lost "Bay of St. Francis" recorded long before by Vizcaino, but which is in reality Drake's Bay, lying to the north of the fog-hidden Golden Gate. Crossing the hills behind Point San Pedro, Portolá and his men looked down on what they termed "a Mediterranean Sea," and named it for the founder of their order, Francisco de Assisi. Descending then toward this great sheet of water, they halted on the little "Arroyo de San Francisquito," at the ford by the present Middlefield bridge, not far from the "tall tree." Here the characteristic tangle of brush, added to the unfriendliness of the Indians, caused them to turn back and make their way along the shore to Monterey again.

Don Gaspar de Portolá

During the summer, the Inner Quadrangle and Encina[1] Hall, a fine big dormitory for men, were

[1] The Spanish name of the live oak — *Quercus agrifolia.*

rushed to completion. But for the young women a very special effort was necessary, as the original idea had been not to admit them until later, when another huge dormitory, already begun, could be made ready for their reception. But it had seemed to me that they should be present from the beginning, so that their admittance might not appear in any sense an afterthought, or their relation that of an "Annex." Mrs. Stanford at once agreed and immediately gave orders for the erection of Roble[1] Hall, which, though not begun until early July, must be finished and furnished for the opening on October 1. Haste being the prime essential, recourse was had to the "Ransome Process," recently patented — namely, the use of reinforced concrete. Roble was thus the second building for which that method was ever employed, the Museum, already practically completed in its original form, being the first. In both cases the material used was made up of crushed sandstone chippings from the Quadrangle and Encina.

Provision for women

The Museum, as well as the Memorial Church finished in 1902, came very near to Mrs. Stanford's heart. Architecturally it reproduced the Museum at Athens, which young Leland had fixed upon as model for the one he meant to build.[2] At the rear, two special rooms were set apart to hold his collection. These duplicate in size and form those allotted to him on the upper floor of the great San Francisco residence, where an elaborate series of photographs

The Museum

[1] *Roble* (Latin *robur*) is the Spanish name for the White Oak — *Quercus lobata*. In 1918 it was transferred to a large and beautiful new dormitory for women, the original Roble being rechristened Sequoia Hall.

[2] In 1900 Mrs. Stanford added to this structure a series of two-story wings which passed around from either side, and meeting behind, enclosed a quadrangular court.

was taken so that everything might retain the same relative place in its new location.

Installing the general collections

The collections Mrs. Stanford herself had long been making were now rapidly installed. The picture galleries contained many original paintings, some of which, especially those by Russian artists, were of decided merit. There were also a number of copies of masterpieces by Raphael, Murillo, Del Sarto, and others. Several of these latter, together with a noble work by Benjamin West, were, however, soon transferred to the walls of the old Chapel, in which for ten years all religious services were held. The main part of the lower floor housed a mixed assemblage of objects of varied merit. One room contained half of the well-known Cesnola Collection excavated in Cyprus. Others displayed Chinese, Japanese, Korean, Egyptian, Roman, and Indian objects and antiquities.

Family treasures

In the rooms immediately above Leland's, Mrs. Stanford gradually placed a multitude of intimate and interesting things of all sorts — family photographs and heirlooms, gifts from relatives and friends (some of no intrinsic value, perhaps, but dear to her as expressions of affection), as well as a number of her own elegant dresses representing earlier modes of fashion, besides a superb collection of lace and one of splendid shawls, historical relics, and I know not what else.

Critical visitors of former days sometimes laid scornful stress on the extremely personal nature of a part of the family collection and the heterogeneous character of the one just below. But for most of us who came close to the donor and knew her noble devotion, the emotions aroused were very different.

INNER COURT AND MEMORIAL CHURCH, 1909

LOOKING THROUGH TRIPLE ARCH, INNER COURT,
INTO MEMORIAL COURT

Moreover, she had the long future in mind. Many things that might possibly seem out of place in her own lifetime would no doubt later acquire a museum value and would certainly be of special interest to the university community.

The boy Leland

In the collection made by the boy were many fine objects well chosen and giving proof of dawning artistic judgment. As a whole it serves to fix forever the warm human quality underlying the dedication of the Stanford millions to the training of American youth. For young Leland was a real boy, with healthy interests and undoubted promise. The significance of his life to the uncounted numbers who shall pass through the institution that bears his name it would be impossible to compute. That fact alone should hallow the toys with which he played, the books he read, the nucleus of a collection he left. Moreover, while most lads of his age and social position were spending their pocket money on trivial even if innocent amusements, his chief joy was to pick up treasures for his projected museum.

6

Our new environment

During the weeks of preparation Mrs. Jordan and I, alone or with friends, explored the mountains and shores within easy distance of Palo Alto. Little by little, then and afterward, the great and varied charms of the four counties of our new environment — Santa Clara, Santa Cruz, San Mateo, and Monterey — unrolled before us. And even at that early period we felt that we should never want to live anywhere else. In such a frame of mind I wrote for my wife the following verses:

Santa Clara Vírgen y Mártir

Now that the throng has left me,
I softly close my eyes,
And one by one before me
The fairest visions rise, —
The best that Life can give me
Of all Life signifies.

I see a sunlit valley
Between two mountain chains,
Where roses bloom and lilies
Along the grassy lanes
Aflame with golden poppies
And wet with fragrant rains.

I see from purple mountains
The lengthening shadows creep,
Touching the lanes of poppies,
Closing their eyes in sleep;
And Earth's uneasy clamor
Is hushed in silence deep.

Again, through sprays of jasmine,
A woman's face I see;
I care not what her beauty
Or her attractions be —
There may be many fairer
But none so fair to me.

Again, a gentle lady
Who lived in other days,
A virgin and a martyr —
So the old legend says —
Who in her name enfoldeth
Delicious destinies.

O blessed Santa Clara!
Her spell be over thee,

To keep thee bright and joyous
As all her roses be;
May her sweet influence cover
The hours 'twixt thee and me.

The Santa Clara Valley, averaging about six miles in width, extends southward fifty miles and more from near the head of San Francisco Bay. Bounding it on the southwest rises an irregular series of Coast Range ridges, known collectively as the Sierra de la Santa Cruz, — *Sierra de la Santa Cruz*

A misty camp of mountains pitched tumultuously.

Immediately behind the university estate, and forming its higher background, is the wooded Sierra Morena, 1300 feet high, its cloak of redwood, oak, and *madroño* diversified by thickets of *chemisal*.[1] Farther south this merges into the domelike height of Monte Bello, 2400 feet, the east face of which is locally known as Black Mountain. Still farther to the southward, beyond Los Gatos Creek, appear a number of other wooded knobs, Loma Prieta, the dominating one, "looming" in gracious beauty 3800 feet high above the valley.

On the east, opposing the green ridges of the Holy Cross, stretches the innermost or landward bulwark of the Coast Range — the long, relatively barren, and treeless Sierra del Monte Diablo. Mount *Sierra del Monte Diablo*

[1] Properly "the place of *chemiso*" — *Adenostoma fasciculatum* — a brushy, rosaceous plant which covers large tracts of barren hillsides of moderate height. *Chaparral*, a parallel and more common term originally given to the dwarf live oak of Spain, means "the place of *chaparra*" or brush in general. Both *chemisal* and *chaparral* are almost impenetrable except to the bobcat, cottontail, and road runner. The latter — *Geococcyx* — is a species of cuckoo with a very long, thin body, long tail, and longer legs, which seldom flies but runs over the ground with amazing speed, and is, all told, the most fantastically delightful feature of California ornithology.

Hamilton, its culminating point, 4440 feet above the city of San José, bears the famous observatory founded by James Lick, of which more presently. Close beside it, and nearly as high, is the twin peak, Santa Ysabel, still dark with *chaparral* of evergreen scrub oak. What an asset to California are the Spanish names scattered by Father Crespi around each of Portolá's camping grounds!

Monte Diablo

Etched against the sky, straight north from Stanford University and visible from every angle, rises Monte Diablo itself, a rocky cone 4000 feet high, and our best point of orientation, because otherwise one never knows which way is north from Palo Alto. In this valley, neither ridges, streets, nor buildings are set on the square; even the compass betrays, for it responds to the magnetic north, here at its farthest — seventeen degrees — from the North Star.

"The Devil's Ridge" with its tawny summer cloak of ripened wild oats, overwashed at sunset by translucent amethystine hues, faces in impious contrast the dark, purpling slopes of the Holy Cross.

The golden poppy

By July the local wild flowers are practically past, but our brief visit the preceding March had revealed California's amazing resources in bloom. Most showy of all, and flaring in every field where not routed by the plow, crowds the golden poppy — *Eschscholtzia californica* — the *Copa d'oro* of the Fathers, with great orange cups which drink in the sunlight but close with the shadow. Behind its somewhat uncouth scientific name lies a romantic incident. In 1817, while on the way to explore the North Pacific, Kotzebue's vessel, the Russian *Rurik*, cast anchor off San Francisco. With the expe-

dition were two naturalists, Adelbert von Chamisso, the poet-botanist, an exile from the French Revolution, and the surgeon-zoölogist, Johann Eschscholtz, professor at Dorpat. Returning from a shore expedition with a sheaf of brilliant flowers, the poet said to the surgeon: "I have found a beautiful new plant and I shall name it for you."

Miles and miles of bloom

But it was not until the following spring — and increasingly with succeeding seasons — that an especial glory of the Santa Clara Valley was disclosed to us. Usually at about the end of March the burst buds of thousands upon thousands of fruit trees seem from the hills above to blend into a gigantic garden of fragrant bloom. On the valley floor and looking through the long vistas which often extend farther than the eye can reach, one gets a different impression. It is then as if he found himself in an ethereal forest where blossoms take the place of leaves. Everywhere the sight is indescribably beautiful.

The hamlet of Saratoga, boasting a fine carbonated spring, and the little city of Los Gatos sit in beauty on a rich upland at the foot of Black Mountain, where the fruit is at its best and the outlook, both up and down, of the fairest. In this favored region with a Riviera climate are many charming homes, none more delightful than the "Rancho Bella Vista" of our friends the Blaneys.[1] Their beautiful Italian villa, the combined triumph of the owners and two California artists, Willis Polk and Bruce Porter, fits perfectly into its encircling landscape of vineyard, orchard, and foothills.

At Saratoga the people celebrate each year a

[1] Mr. and Mrs. Charles Duchêne Blaney.

"Blossom Day Festival" on the Saturday which falls nearest the prime of display, and on Sunday special services are held in the local churches.

The Lick Observatory

Shortly after our arrival we visited Lick Observatory as the guests of its versatile head, Edward S. Holden. Through the great telescope, which reveals any object on the moon larger than a barn, we viewed the glittering craters, and had a superb glimpse of Saturn and its rings. Dr. Holden entertained us royally, but seemed a bit cynical about the apparent cordiality of my reception in California. Referring to the many requests for lectures I was then receiving, he warned me that early popularity meant nothing. With the second year came reaction, and any man whose vogue endured was distinctly fortunate. Later, with characteristic humor, he spoke of my efforts in "diffusing over California the rich culture of the Middle West." But again, and more graciously, he remarked to Mrs. Comstock: "Oh, the youth of Jordan's faculty must make the gods pale with envy!"

As a memorial, Lick had first contemplated a monstrous statue of himself in Golden Gate Park. But George Davidson, then director of the United States Coast Survey, urged that a monument to science would ensure undying fame, while the statue would be promptly knocked to pieces in the event of war. The outcome of that good advice was the admirably equipped Lick Observatory, completed in 1884 and turned over to the University of California in 1888, and the endowment of the struggling California Academy of Sciences.

Another memorable trip was our first visit to the "Felton Big Trees" — a grove of *Sequoia semper-*

virens (not the *Sequoia washingtonia*[1] or *gigantea* of the Sierra, to which the adjective "big" is usually applied) — in the Santa Cruz Mountains. This is a cluster of some dozens of stately redwoods from five to twelve feet in diameter and 200 or more feet high. Close set, with their luxuriant foliage lifted far above, they inevitably suggest the pillars of a great cathedral. Second in size only to the giant of the Sierra, this species is the pride and glory of the Coast Ranges from San Luis Obispo to the Oregon Line, though by an interesting feature of distribution one never finds it beyond the reach of fog from the sea. Its chief peculiarity, however, is a sort of longevity not shared by any other conifer. Fire rarely kills it, and from a huge, naked stump springs up a more or less complete circle of daughter trees which rapidly attain considerable size.

The Coast redwood

A third and very delightful excursion took us to the bold summit of Monte Diablo, from which we looked over the golden harvest of the San Joaquin to the white-cloaked Sierra a hundred miles away, and, toward the west, across the blue Bay of San Francisco and the green slopes of Tamalpais to the great ocean beyond. The top was then reached only by trail. Our easy ascent was due to the hospitable courtesy of Mr. and Mrs. John F. Boyd, who provided two excellent horses and entertained us over night in their charming *rancho* home at the foot of the mountain.

A noble outlook

[1] The specific name *washingtonia* is not so old as the more appropriate *gigantea*, but the latter name had been previously given to a different *Sequoia*, which turned out to be the common redwood. Fortunately, however, the generic term *Sequoia*, name of the famous Cherokee Chief who invented an alphabet, holds over *Wellingtonia* and *Washingtonia*, later bestowed through misapplied patriotism, the one by an English, the other by an American botanist.

CHAPTER SEVENTEEN

I

Skepticism and apprehension

As October 1, the day for opening our doors to students, approached, the skeptical general public showed little enthusiasm over the establishment of a new university in California. Indeed, some cynics declared that it was "a real estate speculation," quite regardless of the fact that Mr. Stanford did not then own even the land on which his Palo Alto residence stood, all his holdings in Santa Clara County having been inalienably deeded to the institution. Voicing another point of view, the New York *Mail and Express* said that there was "as much need of a new university in California as for an asylum for decayed sea-captains in Switzerland," and prophesied that for years to come the professors would "lecture in marble halls to empty benches."

Nearer home, our colleagues in the State University, though personally most friendly, saw only a gloomy outlook ahead for both institutions, as was soon made clear. In September the Stanford professors already on hand were given a dinner by the California faculty, on which occasion a conspicuous member of the latter, Dr. Bernard Moses of the chair of Political Science, made the speech of welcome. Incidentally he explained that the University of California had only 400 students in all, and only 150 young people were each year prepared for college in the state; the opening of another institution, therefore, if it insisted on the standards

prevailing at Berkeley, would mean simply a division of the number, while a lowered standard would be fatal to higher education in the state generally, as well as to the ideals which California had steadfastly maintained.

Advice and warning

From other speakers also we received advice and warning — some of it a bit superfluous, for the California faculty was then composed partly of its own graduates, though a few of the higher places were held by men called years before from Yale and Michigan. The Stanford aggregation, on the contrary, although small at the time, bore the stamp of various institutions in the East and in Europe.

Changed conditions

It need hardly be said that educational conditions in California have changed amazingly since 1891. During the interval its population has risen from 2,000,000 to about 3,800,000, while the number of high school students — 138,600 in 1919, with some 35,000 graduates — is now upward of 200 times that of 1891. Part of the increased appreciation of advanced education was due, especially at first, to the liberalizing influence of Stanford University.

2

The opening day

For the opening exercises a platform was erected under the arch at the north end of the Quadrangle, and in the Court seats were placed for the students and the 1500 others who formed the body of the audience. As is usual in early October, the day was brilliant. Addresses were made by Senator Stanford, by Judge Shafter as representative of the board of trustees, and by myself. In my discourse I ventured to portray the future of a new and well-

A true Golden Age

endowed university, framed in a beautiful setting, "hallowed by no traditions and hampered by none, its finger posts all pointing forward." The true "Golden Age" of California began, I said, when its gold was used for purposes like that.[1]

Fifteen professors only composed the faculty on the opening day — this at the earnest request of Mr. Stanford, who feared that the presumably small number of students the first year would cause a larger group to seem absurd. Several others had been engaged, however, to begin their work later on, and necessity forced us to increase the original number without delay.

The first faculty of Stanford University

In selecting the initial faculty I chose first, as already indicated, a few thoroughly tested men from the University of Indiana. Next, in view of the founder's strong preference for Cornell as well as my own knowledge and tendencies, I selected several from that institution. A number of others, especially in the languages, came from Johns Hopkins, then the recognized center of advanced study. From Harvard I was able to secure none the first year, because the best of its actual staff seemed "earmarked" for retention and promotion. As a rule, also, it was my conviction (founded on experience) that men from Cornell, Wisconsin, Michigan, and other parts of the West in general would fit themselves more readily to the pioneer life of a new institution.

Most of the members of the original faculty began as assistant professors at salaries ranging from $3000 to $3500. For higher positions I had tried to secure men of established fame about whose

[1] For address in full see Appendix B (page 688).

eminence there could be no question, and to them we were prepared to pay $7000.

Among scholars of this class with whom I entered into correspondence were Ira Remsen in Chemistry, Thomas C. Mendenhall in Physics, John B. McMaster and George L. Burr in History, Edmund B. Wilson in Zoölogy, Jacob G. Schurman and Josiah Royce in Philosophy, George Chrystal (of Edinburgh) in Mathematics, James Bright in English Philology, Irving P. Church in Mechanics, William E. Henry in Agriculture, Horatio S. White in German, Jeremiah W. Jenks in Economics, Rufus B. Richardson in Greek, and others whose subsequent records have fully justified my judgment.

But of such men of recognized reputation, already receiving adequate salaries, only two — John C. Branner and John M. Stillman — were willing to make the venture. For it was undoubtedly a risk to go so far from the intellectual centers of the nation — an even greater one to join an institution as yet unorganized, with libraries and laboratories still to be developed. That being the situation, I was obliged to turn to the younger scholars, trusting in my own judgment as to their probable future growth. Of this course the Stanfords heartily approved; and no one older than I (then forty years old) received appointment except as a non-resident lecturer.

Turning to younger men

Only one professor was in any sense selected by Mr. Stanford, and as to the others he made practically no suggestion. He did, however, say that his old friend, Dr. John D. W. Stillman, had left a son, Dr. John Maxson Stillman, a graduate in Chemistry from the University of California, who had also studied in Europe, had later taught in his Alma Mater, and was then serving as a professional

chemist in Boston. Would I look him up and, if his attainments and personality seemed satisfactory, consider him for a position?

Stillman

On visiting Boston, therefore, I went out to Brookline to see Dr. Stillman, and being thoroughly pleased, at once offered him our chair of Chemistry. This he as promptly accepted, declining to consider an advance from his company, for that, he said, would only tend to confuse his mind. We thus secured one of the wisest teachers I have ever known, and one of the most thoroughly beloved; his dear wife, I may add, has ably seconded him in every relation and few other Stanford homes have contributed as much as theirs to the social well-being of our community. Stillman remained for twenty-six years in active service at the head of his department. On my acceptance of the chancellorship in 1913, he became vice-president of the institution, retiring on August 1, 1917, at the conventional age limit of sixty-five years.

The Indiana group

From the University of Indiana came Branner in Geology, Swain in Mathematics, Gilbert in Zoölogy, and Campbell in Botany. The Indiana group included also Earl Barnes (then recently from Cornell) in Education, and a few younger men as assistants. Among the latter was John A. Miller, an admirable teacher of Mathematics, since professor of Astronomy at Swarthmore. With Branner, Swain, and Gilbert my readers are already very familiar, but Dr. Campbell needs a second introduction. A graduate of the University of Michigan, he afterward spent considerable time in Germany, acquiring there a reputation for methodical work and brilliant technique. As a scientific investigator he ranks with the first in his field, being at the same time greatly admired by his associates as an accomplished man of wide experience and travel.

Charles David Marx, our professor of Civil Engineering, a graduate of Cornell and formerly assistant professor there,

CHARLES DAVID MARX

RAY LYMAN WILBUR

EDWARD CURTIS FRANKLIN

DOUGLAS HOUGHTON CAMPBELL

left De Pauw to accept our chair of Physiology, from which he retired as emeritus in 1916. James Owen Griffin, who had acquired at Cornell a reputation for remarkable patience and skill in teaching, took up the work in German, retiring as emeritus in 1916.

Not all remained

Besides those enumerated above, most of whom remained permanently at Stanford, a number of others belonged to the original group but sooner or later resigned to take positions elsewhere. Among these were Dr. George E. Howard (in History) from the University of Nebraska, to which institution he afterward returned; Dr. Henry A. Todd (in French) from Johns Hopkins, soon called to Columbia; Samuel J. Brun (his assistant) from Cornell, later an attorney in San Francisco; Ernest M. Pease (in Latin) from Smith, afterward engaged in business; and Dr. Thomas D. Wood (in Organic Training) from Harvard, since 1900 a professor at Columbia. Two others, Horace B. Gale (in Mechanical Engineering) and Dr. Arthur G. Laird (in Greek), remained for one year only.

Dr. William Howard Miller, reputed to be one of the most brilliant graduates of Johns Hopkins, came as assistant professor in Mathematics but died of tuberculosis before the end of the year. A fine sonnet in his honor, "First Dead of Stanford Scholars," was written by his colleague, Martin W. Sampson, who joined our ranks in January.

The chair of Entomology, established in anticipation of a School of Agriculture (never developed), I offered to Comstock, the leading teacher in his field. But by special arrangement covering a period of three years, he divided his time equally between Cornell and Stanford, thus laying the foundation of our strong department of Entomology.

As librarian came Edwin Hamlin Woodruff, a Cornell man then in charge of the Fiske Library in Florence, and so eminently fitted to gather books for the new institution. Woodruff was later transferred to a professorship of law, a position even more to his taste, from which he was called to the new Law School at Cornell, of which he afterward became dean.

During the year additional teachers were needed. Among those newly appointed were: in English, three young scholars Alphonso G. Newcomer, a Cornell graduate of admirable

literary ability, much beloved, whose untimely death occurred in 1914, Sampson, from the University of Iowa, since professor at Cornell, and, from Indiana University, Edward Howard Griggs, afterward a very popular public lecturer; in Graphic Arts, Bolton Coit Brown, a graduate of Cornell, then from the University of Syracuse, who later resigned to devote his whole time to painting; and in Mathematics, Charles E. Cox from the University of the Pacific, who afterward went into business in San José.

The ability to do one's best under varying circumstances and unforeseen trials was distinctly a quality of most members of the pioneer Stanford faculty, and stood us in good stead later on. Several of them I had known for years, and I should have selected other personal acquaintances except for the fear of running too much in one groove. Afterward some of my new colleagues expressed regret that I had not put in "more of my friends" — that is, more men with whose personal equation I was thoroughly familiar.

Non-resident professors

Following President White's plan at Cornell, I early arranged for a system of non-resident professors, men of distinction who should supplement by lectures of an inspiring kind the regular courses of study. My first choice naturally fell on White himself, and in the spring of 1892 he came out to Stanford to give a course in Modern European History. A year later Dr. Jacob Gould Schurman (soon after elected president of Cornell) gave some lectures in Philosophy; and ex-President Harrison addressed us on International Law, in the fall of 1893. In this last connection I quote the following from one of Senator Stanford's letters to me, dated from Washington, D. C., March 10, 1893

Harrison on International Law

President Harrison . . . has agreed to deliver a course of lectures next fall. . . . I want him particularly to take up the subject of International Law, and the importance of having the civilized nations of the earth agree upon a Code. Communication between nations is becoming so close and intimate that the time is not far distant when war as a means of settling their disputes will be impossible. I think that arbitration is in harmony with the present advanced civilization of most of the great nations of the earth.

Mr. Harrison gave an excellent though rather didactic course of lectures which were later published as a volume entitled "Views of an ex-President."

From 1893 onward to the end of my administration, lack of funds caused by litigation and earthquake damage made it impossible to provide for any more non-resident professorships.

3

Adventurous youth

Professors alone do not make a university; on the opening day 465 students were admitted at Stanford. These adventurous scholars came from all over the world, but especially from the Middle West. Naturally the greater number, about 350 all told, entered as freshmen. As for those in the higher classes, they had in general followed favorite professors from the East. Practically all were lodged in the two dormitories made ready only a few days before.

Presiding as mistress of Roble Hall was Ellen Thompson, a graduate of the University of Michigan, and sister of my old friend, Will Thompson, of the Indianapolis High School. Miss Thompson's position, retained by her for five years, virtually corresponded to that of dean of women. With a charming personality and gentle and lovable nature, she exerted a marked influence for good in the early days.

Bert Fesler, one of my former Indiana students, now district judge in Minnesota, was master of Encina Hall, a position filled by him for one year with firmness and justice. But the entire lack of tradition among a body of students drawn from all parts of the country made the duties extremely complex and trying until the colts were fairly broken. After varied experiences, control was finally put in the hands of the residents themselves through the so-called "Encina Club," an arrangement on the whole satisfactory.

Handling Encina

In charge of the boarding arrangements at Encina was George Adderson, formerly an English butler. Tall, heavily built, and with face and beard strongly suggestive of pictures of the Almighty in certain religious books, he was also frequently identified as Santa Claus. He had a loud voice, gruff exterior, and kind heart — a combination contributing both to fear and affection. The business of feeding students, however, is a somewhat thankless job and after a time it was turned over to private enterprise.

In the course of the first week occurred an episode characteristic of the happy-go-lucky type of some of our younger boys. On the railway switch running up to the University stood an empty flat car, tempting to some sort of prank. Crowding upon it, therefore, a group of dare-devils started it off and spun down the grade to the main track at Mayfield, where they finally succeeded in stopping. No real harm was done, but a tragic wreck would have ensued had they met a moving train.

Dropped off the edge of the campus

As a matter of fact, however, general student morale was high from the beginning, and the early leaders took seriously the duty of initiating rational and wholesome customs. Those who found themselves out of harmony soon left the university, either of their own accord or "by request," being then, according to accepted phraseology, "dropped off the edge of the campus." Before the first week

No smoking in the Quadrangle

had passed, the "Student Body," already organized, passed a resolution that there should be no smoking in the Quadrangle (for which we all felt a kind of reverence) nor in any of the academic buildings. The tradition then established has ever since been respected by both students and faculty.

As to the official relation of the University to religion and morals, Mr. Stanford had clearly expressed his general purpose in the grant of endowment. At the outset one of the buildings of the Inner Quadrangle was accordingly set aside to serve as temporary Chapel,[1] and there, for ten years, as I have said, the University conducted regular Sunday services, the sermons being delivered by neighboring clergymen, occasional visitors from the East, and certain members of the faculty, especially Dr. Thoburn, to whom I shall soon pay my tribute. The institution being non-sectarian, no line was drawn among religious organizations. One of our most welcome preachers, for example, was Rabbi Jacob Voorsanger of San Francisco. Others were Dr. Charles R. Brown, then pastor of a Congregational church in Oakland and now dean of the Yale Divinity School, Dr. Horatio Stebbins of the First Unitarian Church of San Francisco, and Dr. Robert Mackenzie of the First Presbyterian.

Sunday services

The theory and practice of religious teaching as it appeared at Stanford were early trenchantly discussed by a sophomore of the day, Arthur M. Cathcart, since a member of the law faculty. In a student publication,[2] he writes as follows:

[1] Now known as "the Little Theater."
[2] *The Sequoia*, Vol. III, page 21; 1894.

When the student first comes to Palo Alto, he finds himself in a very liberal atmosphere. He hears beliefs which may have seemed too holy for mortals to question discussed with the utmost freedom. He soon learns that if his religious opinions are to be respected by the thinking class of students, he must put them on a rationalistic basis. Instead of blindly accepting what he has been taught at home, he begins to ask himself, "Why do I believe as I do?" That question asked, he has then cut the cable which moored his bark in the quiet harbor of orthodoxy, and it is now rudderless and without a compass on the stormy sea of doubt. Where he will land depends upon the current in which he is drifting. . . . Our student at last discovers that the university believes in "the immortality of the soul and the existence of an all-wise and beneficent Creator." "That obedience of His laws is the highest duty of man" is a necessary inference.

With the completion of the Church in 1901, a resident chaplaincy was established, the incumbent to be free for the time being from ecclesiastical control and to be assisted as occasion arose by outside clergymen. Dr. R. Heber Newton of New York, the first appointee, was soon succeeded by Dr. D. Charles Gardner who had served as his assistant. Gardner has filled his position for eighteen years with the general approval of students and professors. A broad-minded man with the kindest of hearts, he holds the respect and affection of all, whether churchgoers or not; and to those in trouble or anguish, either mental or physical, he is ever a good shepherd.

Our padre

4

On the opening day appeared the first issue of a student paper, *The Palo Alto*. This clever publication of a distinctly lively and original character

"The Daily Palo Alto"

was the private venture of two young men, Holbrook Blinn and Chester Bailey Fernald. The second year it was taken over by the Student Body, and as *The Daily Palo Alto* — familiarly "*The D.P.A.*" or "*Dippy*" — has ever since been the chronicle of college news.

Both Blinn and Fernald afterward became conspicuous in dramatic circles in London and New York, the first as an actor, the second as a playwright. And Blinn has more than once remarked that his determination to succeed was shaped by an epigram of mine in a talk to the students, "The world turns aside to let any man pass who knows whither he is going."

"*The Sequoia*"

With the second year was born *The Sequoia*, then a weekly literary journal. Looking over its early pages, I find them remarkable for the skill and ingenuity shown by some of the writers, especially in lyrics and short stories. Several of these contributors afterward became successful as newspaper correspondents, college professors, or writers of short stories.

Notable among them were "Carolus Ager," Charles K. Field, '95, now editor of *Sunset;* Will Irwin, '99, the sane and accurate war correspondent; his brother Wallace, ex-'00, distinguished for satirical verse and character sketches; Dane Coolidge, '98, story-teller of the Southwest; Bristow Adams, '00, now of the forestry department of Cornell; William W. Guth, '95, president of Goucher College, Baltimore; Edward Maslin Hulme, '97, professor of History in the University of Idaho; William J. Neidig, '96, and Sarah Comstock, '96, writers of special articles and short stories; Isaac Russell, '04, Thoreau Cronyn, '03, and John M. Oskison, '98, journalists in Chicago and New York; and Walter M. Rose, '95, a superior student of law and author of an important legal digest.

Our humorous paper, *The Chaparral*,[1] launched

[1] See Chapter XVI, page 389.

DAVID STARR JORDAN, 1891

WILBUR WILSON THOBURN

JOHN MAXSON STILLMAN

in 1895 by Bristow Adams, usually holds its own among journals of college fun, though in later years it has rarely equaled the high standard set by its founder. *"The Chaparral"*

In early years, at least, the Stanford Student Body contained an unusually large number of original and varied characters drawn to the new institution from all parts of the country, and representing almost every conceivable form of talent or genius. This was peculiarly true of the "Pioneer Class" which graduated in 1895, and its successor of 1896, as well as of the three smaller preceding classes composed of students from other institutions. A history of those present on the opening day, for instance, would make a striking record. A few of them I have just mentioned. Of several others I shall also speak without, I hope, suggesting invidious distinctions. *Early characters*

Wilbur W. Thoburn, a graduate of Allegheny College, entered as an advanced student in Zoölogy, though the admirable quality of his work and his noble personality brought him almost at once into the teaching staff, where he ultimately became professor of Bionomics. His influence for good over students I have never seen surpassed, and no one has since stepped into the place he made for himself. A minister by original purpose, he served as a sort of unofficial chaplain whose primacy in religion as applied to conduct was unquestioned. His university lectures dealt mainly with organic evolution, of the theory of which he was a convinced and effective exponent. After his death in January, 1899, the notes of his moral talks to students were pieced *Thoburn*

"In Terms of Life"

together by Dr. Elliott in a very helpful book entitled "In Terms of Life." [1]

Some years later, Professor L. P. Jacks of Oxford, editor of *The Hibbert Journal*, asked me to write on "The Religion of a Sensible American." In this article (afterward reprinted in book form) I gave an analysis of Thoburn's thought and influence. From a Phi Beta Kappa poem, "Prayer," written by Mr. Field in memory of Dr. Thoburn, I quote the following, though it is a matter of regret to break the finely balanced thought of the whole:

Prayer

Voice unforgotten! once your message came,
Set in a quiet sentence;
. . . . . .
Prayer, if it be such deep desire
For good that it shall realize
Its hope in action, may aspire
To answer and not otherwise!
So spake that voice, and prayer became
A force, no more an empty name!
And over faith's inverted cup
A gleaming Grail was lifted up.
. . . . . .
Right thinking ever turned to act
Shall make unceasing prayer a fact;
And prayer, thus answered, shall allow
A larger faith and teach it how
To find its heaven here and now!

In this tribute, his finest accomplishment, Field portrays an underlying and fundamental emotion.

[1] A sentence from one of Thoburn's addresses — "Believe and venture: as for pledges the gods give non " — has always seemed to me singularly pregnant with meaning. I do not now know whether it was original with him. It might well be, though it has a Greek flavor. Mr. Nathan Haskell Dole tells me that he does not find it anywhere. He observes: "As a guess I should have attributed the apothegm to Emerson. It has also the ring of the Schiller-Goethe Xenien. But for authority I can give none."

His volume, "Four-leaved Clover," dealing with fancies both grave and gay, forms a delightful record in verse of much that gave color to the early days at Stanford. None of our other versifiers had his light and joyous touch, a poetic link between him and his father's well-known cousin, Eugene Field. *"Four-leaved Clover"*

But to speak of "Charlie Field" is to think of Shirley Baker, his mate, another "Pioneer," whose fine voice and lovable personality lent joy to every gathering at which he appeared. When these two graduated, our community lost something of its characteristic flavor. The appearance the next autumn at the Football Show of the "Bakersfield Brothers" dressed as "hoboes" and singing an original song entitled "In the Cold, Cold World," indicated that life for them, also, had perhaps taken on a somewhat sterner cast!

The best known of all the graduates of Stanford (because probably the best-known man in all the world) is Herbert Clark Hoover, also of the "Pioneer Class" and the first one to whom I assigned a room in Encina Hall, this being No. 38. His varied experiences and accomplishments as mining engineer, corporation director, investment expert, rescuer of American tourists in Europe, savior of Belgium and northern France, United States Food Administrator, World Food Controller, Chairman of American Relief Administration, European Children's Fund, and founder of American Relief Warehouses [1] abroad, have served as the theme of many records and eulogies. Into this fascinating story I need not go, for it has recently been fully dealt with in two *Hoover*

[1] The last two charities organized and conducted solely in his capacity as a private citizen. More recently as Chairman of the European Relief Council, made up of eight great American relief societies, he has undertaken to nourish and nurse 3,500,000 children in Eastern and Central Europe.

delightful biographies of wide circulation, the one by Vernon Kellogg, the other by Rose Wilder Lane and Field, Hoover's college intimate.

Added to the unflinching idealism already foreshadowed in youth, Hoover has shown in mature years a degree of administrative capacity never surpassed; no other man, moreover, has so broad an outlook on world political and economic relations. The highest motive of his life, withal, is a spirit of helpfulness, and millions now speak his name with gratitude! Meanwhile his gifted wife, Lou Henry, — also a Stanford graduate in Geology and Mining, — supports him in every endeavor with devotion and self-forgetfulness. Thus in both, character and opportunity seem to have combined to bring native ability to flower and fruitage.

"De Re Metallica"

In 1909 Mr. and Mrs. Hoover undertook a huge literary task, the translation of the oldest monograph on mining, Agricola's *"De Re Metallica,"* published in 1556. This enormous book, dealing with early methods and written in crabbed, medieval Latin often incomprehensible to one not familiar with the processes described was turned by the two experts into English with a multitude of illuminating notes, the superb finished volume reproducing all the plates and having both the form and make-up of the original vellum-bound quarto.

As trustee of Stanford University, to which honor he was elected in 1912, Mr. Hoover has rendered most valuable service, especially in promoting the personal welfare of faculty and students.

Theodore J. Hoover followed Herbert, his brother, and took up the same line of work. After several years of profes-

HERBERT HOOVER

Photograph by Underwood & Underwood

VERNON KELLOGG

Photograph by Underwood & Underwood

sional success, mainly in Europe, he returned to the university in 1919 as professor of Mining Engineering. Theodore, like Herbert, is a practical idealist. Roaming as a student over the hills of Santa Cruz County, he came upon the beautiful Waddell Creek, a trout stream flowing between redwood-covered heights down to the sea. "When my ship comes in I'm going to own this place," said he. That cherished plan was carried out not long ago, when he bought 2500 acres of forest, hill, and dale, and established there (besides a model farm) his hospitable summer home, Casa del Oso.

The women of Stanford

Among the young women entering Stanford University in October, 1891, were many of superior scholarship and charming personality. These and their successors contributed in a marked degree to the fine atmosphere of the early years. If I do not particularize to any extent, it is partly because in the nature of things their public relations are usually less conspicuous than those of the young men, and several married graduates whose names appear in this recital; indeed, scores of the happiest homes in my acquaintance are those of Stanford mates. A number, however, entered successfully on professional careers.

Of these last, two who entered in the fall of 1892 have long been members of the university faculty. Clelia D. Mosher added to her preliminary degrees from Stanford that of Doctor of Medicine at Johns Hopkins. From 1910 to 1919 she held the double position of medical adviser and of director of physical training for women, having been only recently relieved of the latter duty. In certain lines of research Dr. Mosher's distinction is unquestioned. As medical investigator for the Children's Bureau under Dr. William P. Lucas, also assistant and later associate medical adviser to the Bureau of Refugees and Relief, she served the American Red Cross in France during two years of the war with conspicuous usefulness in a large variety of ways. Dr. Clara S. Stoltenberg entered the

faculty immediately upon her graduation in 1896, as instructor in Physiology, rising to the rank of associate professor in charge of Neurology, in which field her work is accurate and virile.

In 1892 came also Irené Hardy, a teacher of English who had been molding generations of eager youth in the Oakland High School. From 1894 to 1901 Miss Hardy's fine influence made itself felt in the department of English, of which she had become an assistant professor. She was, unfortunately, forced to retire from the department because of failing eyesight, which has, however, not dulled her exquisite poetic fancy, as "Skerryvore," received as I write, clearly testifies.

In 1893 Lillien J. Martin, a graduate of Vassar and teacher of science in the Girls' High School of San Francisco, came for research in Psychology, a work successfully continued at the University of Göttingen from 1894 to 1898. The following year she entered the Stanford faculty as associate professor of Psychology, retiring as emeritus professor in 1917. Meanwhile the high quality of her scholarship had won her the honorary degree of Ph.D from the University of Bonn. Since leaving Stanford, Dr. Martin has taken up in San Francisco the interesting and relatively new profession of consulting psychologist.

Friends and disciples

Of the students who followed favorite professors from the East, all entered with spirit and sympathy into the novel conditions prevailing at the new institution sprung up like a mushroom on the old Farm. From the ranks of these Argonauts professors were often recruited for Stanford and other institutions, but limits of space warn me against pursuing this fascinating record much further. I may, however, refer to a few more disciples.

Charles E. Chadsey, '92, who followed Howard and Warner from the University of Nebraska, and long known as one of the most efficient of city school superintendents, is now professor of education in the University of Illinois.

Bradley M. Davis, '92, my assistant in explorations in Colo-

rado, now professor of Botany in the University of Michigan, was at hand on the opening day.

A favorite former student of Anderson at the University of Iowa was L. Ward Bannister, '93, now a leading attorney at Denver and a national authority on irrigation law.

Edwin B. Copeland, '95, son of my old associate and a botanist of repute, sometime dean of the government agricultural college at Los Baños in the Philippines, is now a rancher at Chico.

Caspar W. Hodgson, '96, a teacher in Indiana and California before he entered Stanford, has shown his staunch devotion in unique fashion by undertaking the publication of these memoirs under the imprint of the house established by him.

Wilbur

Conspicuous as the tallest and still more as one of the keenest and most influential students, was Ray Lyman Wilbur of the class of 1896, later assistant professor of Physiology, next professor of General Medicine and first dean of the Stanford Medical School, and finally, since 1916, president of the University. A man of intensive scientific training and incisive style in writing and speaking, he is moreover possessed of rare executive capacity, revealed in the organization of the Medical School and in general administrative affairs. In 1898 he married Marguerite Blake of the class of 1897, who presides with dignity and devotion as wife, mother, and hostess in the stately new residence now provided for the president. During the war Dr. Wilbur rendered signal service as one of Hoover's leading volunteer associates in the Food Administration.

Not forgotten

But upward of 6000 earnest men and women received their diplomas at my hands, going forth to varied "usefulness in life," and loyally serving their generation. They are not forgotten — neither do they forget.[1]

[1] For very brief mention of certain early graduates see Appendix G (page 707).

Dedicating a volume of "Stanford Stories," Field and Irwin used the following verses extracted from two poems, the first by Irwin, the second by Field:

To the newest born of the Sisters,
At the end of the race's march,
In her quaint, old Spanish garment,
Pillar and tile and arch;
Awaiting the age that hallows,
Her face to the coming morn,
Whose scholars still walk her cloisters,
Whose martyrs are yet unborn.

We scatter down the four wide ways,
Clasp hands and part, but keep
The power of the golden days
To lull our care asleep,
And dream, while our new years we fill
With sweetness from those four,
That we are known and loved there still
Though we come back no more.

The second generation

Happily, many do come back, and some in a double sense, as happens with every "Alma Mater." For within recent years the University has had the pleasure of welcoming a considerable influx of young people bearing the familiar names of Stanford's first generation of students. Times have necessarily changed, but the chief regret of us Ancients is that we cannot renew our youth with these children of a later day, whose parents were and remain our friends.

5

During the first year of the university a number of the professors had rooms in Encina Hall. This naturally brought about close and friendly relations

HENRY RUSHTON FAIRCLOUGH

CLELIA DUEL MOSHER, M.D.

between them and their fellow lodgers, the more so as the faculty was then made up of men under forty years of age. And it was quite often said that the only way to tell an upper classman from a professor was that the students were the older! Once when two youths met on a tramp in the hills, one became somewhat expansive in regard to his own exploits. Finally, surveying his companion, he inquired: "Frosh?" "No, Prof." "Oh, Lordy!" said the dismayed freshman.

"Frosh" and "Prof"

As a matter of fact, some of the "boys," being over thirty, were older than several of the professors. Indeed, the average freshman was twenty to twenty-one years of age and thus more mature than is the case in Eastern colleges. For this there were two main causes: first, the limited number of high schools then on the Pacific slope; and second, the fact that a large percentage of our men had been obliged to interrupt their college courses to earn money. With the very rapid expansion of the educational system in the far western states the one cause no longer operates. To a large extent the other still holds.

Students of mature age

Students at the University of California humorously spoke of our men as "kidlets" or as "the boys from Dr. Jordan's school." In the first intercollegiate clash, a football game in November, the "kidlet" team was victorious by a score of 14 to 10. After that, athletics being the main test of relative vigor in the minds of many, Stanford University was received on more or less equal fellowship by "Berkeley."

The first football game

On the 14th of May, 1892, the anniversary of the birthday of Leland Stanford Junior, the entire

University outings

university went to Monterey on a picnic, an incident which strengthened the ties already binding "Pioneer" teachers and students to one another. In 1893 a similar outing took us all to the Felton "Big Trees." Faculty homes were meanwhile freely opened to the young people, joint exploring excursions to mountain and sea were common, and the "major professor" relation — including the professor's wife — was no mere item of officialism, rather a source of enduring personal intimacy. These special conditions, so natural in early days, continued for many years, and formed a substantial element in the development of "the Stanford spirit."

Senior-faculty games

One unique factor of that and a later period as well was the annual match game at Commencement time between the faculty baseball team and one made up from the senior class. This custom I had introduced with success at the University of Indiana. In 1909 a falling batting average led me to give up playing, and not long after the practice was dropped, the spectacle of the president covering first base having always been the leading attraction. Yet it is only fair to say that the remarkable attire in which the successive senior players appeared also constituted a special drawing card. The Pioneers, for example, came on the field in flannel shirts and overalls, carrying each a pick and shovel. One set garbed themselves in ballet costumes, another in Mother Hubbards — these last presumably to their regret, for the valiant base runners struggled hopelessly at times against the clinging skirts.

Other colorful incidents further enlivened such

occasions. In the course of the '95 game, I happened to hit a difficult foul fly which the catcher, Tracy Russell (since a well-known physician of San Francisco), captured after a long run, thereby assuring victory, for the class. Then from the side lines, led by Charlie Field, arose the chant:

> Will Tracy graduate?
> Only the Starrs can tell.

At the games the camera was, of course, freely used, and in early editions of *The Quad*, or Junior Annual, many amusing incidents are pictured. On one occasion, striking too hard at a curved ball, to the delight of the spectators I split my vest down the back. A framed photograph on the wall of the Faculty Club House still preserves the record of that mishap, probably unique in the annals of university presidents.

"Fanned out"

But the young people contributed in many ways their share of merriment, though frequently, it must be confessed, at the expense of their elders. I remember distinctly a one-act play entitled "A Faculty Meeting," in which various members of the teaching staff were cleverly impersonated and the outstanding traits of each pleasantly hit off. After expansive idealism on the part of the literary fellows, and some droning by others, an instructor came rushing in with exciting news from the baseball field, where a game was said to be in progress. Upon this, the session broke up incontinent, all the professors, led by the president, making for the side lines. For it was then a common joke among the boys to say that ability to play baseball was the first requisite in securing a professorship at Stan-

"A Faculty Meeting"

ford. As a matter of fact, the faculty of the first few years contained a very large percentage of college athletes.

The audience reassured

At another time, dramatic action being interrupted by a loud and irrelevant noise, "That's only the president falling off his bicycle," remarked one of the actors reassuringly. Like most of the faculty, I was learning to ride the wheel on the old asphalt pavement of the Inner Court, and being a "heavy-weight," was fair game. (Somewhat later, when the bicycle age was fully established, half a thousand student machines stood daily about the walls of the Quad.) In another skit, Uncle John, our local Ananias, appeared in person, explaining to a casual tourist that the small banana plants in the Quadrangle were young cocoa trees, which grew "fifty feet high in summer, and gave the students all the coconuts they could eat."

Successful vaudeville

One of Encina's most successful entertainments was a vaudeville show. Among other effective numbers, the performers gave a perfectly costumed ballet, danced by several long-legged, husky football heroes fairly bursting from their bodices. One, indeed, did burst as the stepping got brisker, and the "Queen," Tarn McGrew, a picturesque figure from Honolulu, was more compelling than ever in the new rôle. On the same occasion "Calliope Cardinale" — alias "Charlie" Field — a tall and slender prima donna, made her appearance. Attired in an elegant and decidedly *décolleté* gown of Stanford red, long cardinal-colored silk gloves and hose, and voluminous white lacy petticoats, the whole topped by an elaborate blond coiffure, the singer contributed several florid songs in a fine falsetto. To-

ward the close of their rendition he (or she) dropped into tenor and then into bass, after which she (or he) withdrew with much *frou-frou* of skirts and flirting of lingerie, to the great admiration of the pit.

But our Swedish man (who had dropped in at the back of the hall) was decidedly shocked by the free and easy manners of the "ladies" on the program. Yet once, when a Salvation Army captain asked him if he "would like to work for Jesus," he replied succinctly: "No, I ban working for Doctor Jordan."

A contest in politeness

To offset the antics of "Calliope" and the robust elegance of the ballet, the boys staged a contest which belied Professor Hiram Corson's assertion that "football is not a lady-like game." The two rival teams, each member in conventional evening dress, and with ball swathed in cardinal satin ribbon, first met with elaborate courtesy. Every play was then preceded by a deferential "May I not?" "May I presume?" or words to that effect. Even the most critical stickler for etiquette thus found nothing of which to complain.

Such fooling is, of course, common wherever young fellows congregate. And it must not be thought that dramatic talent at Stanford runs only in burlesque. The entertainments of which I have spoken were followed by many and varied efforts along serious lines. Of these, the medieval "Knight of the Burning Pestle" (1902) and "Antigone" in Greek (1903) stand out as especially elaborate and scholarly representations. For the high quality of the second, not excelled in any similar interpretation, credit was due to the careful training of Professors

The "Antigone"

Murray and Fairclough and to the fortunate fitness of Miss Eunice Cooksey as the tragic heroine of Sophocles.

Many good modern plays also have been well produced at Stanford, too many indeed to permit individual notice. Moreover, my mind persistently turns back to the old, idyllic days, never before experienced by any university group, and never to return. The atmosphere of that time was so delightfully expressed by Ellen Coit Elliott, wife of the registrar, that I cannot refrain from quoting her here. In an article relating the experiences of the "Cornell Colony" at Stanford, she wrote:

Die Luft der Freiheit

> Perhaps it is the spirit of the West, perhaps it is the vital breath of the Pacific, coming in to us over the mountains, but whatever it may be, some enchantment has blinded us to the crudities, the drawbacks, the limitations of our state. The giants looming in the path of the pioneer appear but frivolous windmills in our eyes. Come not out to us, O doubting Cornellians, thinking to return untouched by the unreasonable enthusiasm. Christmas shall bring you, and the months of spring shall bring you, critical, skeptical, curious, speering after our library, questioning about our funds, and you shall return — if you return at all — chanting as fervently and irrelevantly as we, "*Die Luft der Freiheit weht.*"

6

Among the students generally the presence of the women was from the first taken as a matter of course, only a small set (commonly reputed to be "fast") regarding them as in any sense intruders. However, as time went on, certain elements began to voice their opposition to coeducation at Stanford. One critical group consisted partly of business

THE PRESIDENT AT THE BAT, 1895

men educated at Harvard or Yale, for it is sometimes difficult to convince elderly graduates of either of these institutions that the system which prevailed in their day is not the best possible. Another opposing influence came from certain of our Roman Catholic friends who hoped to establish a branch college for girls at Menlo Park under Stanford auspices, thus forming a separate "Annex" for the women. This idea naturally met with no favor from the University authorities, and Mrs. Stanford herself resolutely refused to make any change whatever in her husband's recognized purposes.

The women he had heartily welcomed from the beginning, though with no expectation that their number would approach that of the men; the institution was to deal largely with the applications of science and with advanced research in the various fields of knowledge, for he had in mind a sort of combination of Cornell and Johns Hopkins. After his death, certain unforeseen complications threatened to result in what he would have regarded as an excess of women students. Mrs. Stanford, therefore, as acting sole trustee, felt obliged to place a limit on their number. Her action aroused at the time a certain amount of criticism, though it proved distinctly sound as a policy for the formative period, and that for a twofold reason.

Changes in policy

During several years of litigation with which I shall soon deal, we found ourselves unable to provide advanced courses in some special lines of study. We were accordingly compelled to advise certain upper classmen to go elsewhere to complete their work; for the law students we suggested Harvard,

for medical students, Johns Hopkins, and for those in Mechanical and Electrical Engineering, Cornell. Meanwhile the subjects generally chosen by women (involving far less outlay in equipment) were well handled, and it looked as if the men might be outnumbered.

Limitation of numbers of both women and men

Such a contingency naturally alarmed Mrs. Stanford; as she said, the institution was above all a memorial to a boy, and neither she nor her husband would have wished it to appear as largely a school for girls. Accordingly, on May 31, 1899, in a formal address to the prospective board, she stipulated that "the number of women attending the University as students shall at no time exceed five hundred." In this matter I was not consulted because, so she naïvely explained to the press, I "would probably be opposed," and she did "not wish to be argued out of it."

Many years later (1916) it was decided by my successor, President Branner, and the board of trustees that the best interests of Stanford would be served by limiting also the number of young men in the two lower classes. For the authorities were determined not to let increasing attendance interfere with good work, as it certainly would without a corresponding increase in income, nowhere to be expected. More students would of necessity require more teachers, and tuition remaining virtually free, individual salaries would then have to be lowered. The only alternative, a high tuition fee, was something to be avoided, as it is, in fact, a tax on education which tends to discourage self-supporting students, many of whom are among the very best. It would likewise reduce the number from a distance,

and thus weaken the cosmopolitan quality of which Stanford was justly proud.[1]

The limitation agreed upon in 1916 was not soon enforced, for with America's entrance into war, the number of young men enrolled in the university was reduced from 1500 to 800, nearly a thousand undergraduates, women as well as men, having left to enter one or another form of war work. I may here add that 2962 Stanford men, including, of course, a large percentage of alumni and several members of the faculty, enlisted in the United States Army; also that seventy-five students and two professors (Dr. Robert Édouard Pellissier and Dr. Shadworth Beaseley) lost their lives in the service. Upward of four hundred others, both men and women, took part in relief work under the Red Cross, Friends' Reconstruction Commission, Y. M. C. A., and similar agencies, the total number in war service being recorded as 3393.

Entrance requirements

Entrance requirements for the first year had necessarily been drawn up by the president and registrar. One of the earliest duties of the faculty, therefore, was to formulate a permanent basis for admission. But coming, as the professors did, from many different institutions with varying traditions, they were in agreement on but two things: first, that standards should be of the highest, and, second, that emphasis should be laid on quality in preparatory work and not on compliance with a pre-

[1] In 1893 it was found by careful calculation that our young people came on the average 1080 miles, the institution's "center of gravity" lying not far from Green River, Wyoming. Recently, the pressure of the high cost of living has forced the imposition of a considerable tuition fee.

scribed list of studies. The general consensus of opinion thus favored some adaptation of the Johns Hopkins "group system"; namely, the distribution of preparatory subjects into groups — Science, Literature, History, Languages — from each of which the student must present one or more units. There was, however, no common agreement as to the make-up of the several combinations, which at the best are largely arbitrary. Algebra, for instance, — pure logic in its higher reaches, — is registered under the group system as a science along with inductive (or laboratory) sciences like Chemistry and Zoölogy. Several of the faculty, moreover, were totally opposed to all attempts at grouping, holding out for the acceptance of any sixteen high school units of credit — that is, four years' work — however composed, if satisfactory as to quality. By this scheme the adjustment of courses would be left to the discretion of the individual secondary schools.

Large liberty of election in preparation

No agreement having been reached, the matter was finally referred back to the president. I then ruled that in view of the great variety and wide geographical range of the institutions from which our students came, the sole requirement in all departments should be in English Composition, while the other fifteen units might be chosen from a list of very liberal range. In other words, a student need not necessarily decide in preparatory school as to what lines his future education should follow. Brief courses in language or science would not, however, be accepted, and laboratory work would be required in all natural and physical sciences.

Faculty meetings are as a rule monotonous, being highly technical, but getting acquainted at Stanford

brought out an occasional humorous incident. One afternoon Jenkins expressed quite extreme ideas as to "*Lernfreiheit*," insisting on the elimination of certain methods as cumbersome traditions which interfere with mental training, the real work of a university. To this point of view Anderson took exception and said that though he had previously thought himself a radical in education, he now seemed to be "at the tail end of the conservatives." I then reminded Jenkins of the first time either Anderson or I ever met him. This was in 1878 at a meeting of the Indiana State Teachers' Association, where Anderson read a paper on the cultural value of German literature, and especially of "Faust." Jenkins, however, maintained vigorously in rebuttal that modern literature had no place in college; such time as a student could devote to letters and philosophy should be spent on Greek and Latin; "a study of Plato was more fertile than that of Goethe."

Radical and conservative

"Yes," characteristically countered Jenkins, "I once wore short pants." And some years later his most notable educational utterance, a Commencement address at Stanford, had for its theme "The Passing of Plato."

During the first few years I was repeatedly asked what brought Eastern students to Stanford. In 1893, therefore, I addressed a circular to each one of them, inquiring as to his motives in coming.

Why Eastern students came

"The charm of California itself" was most frequently given as a reason. Then came (in order) "its excellence of climate," "its appeal to the spirit of adventure," "Stanford's freedom in study and the flexibility of its educational adjustments," "mod-

erate charges along with opportunities for self-support," "previous personal acquaintance with members of the faculty," and "a general feeling that the new institution was on the right track."

Educational ideals

The last idea was characteristically expressed by two of the upper classmen. The one said:

> I chose Stanford as the place for my final year as an undergraduate because of its progressive educational ideals and a strong belief in the spirit and methods of its work, a belief based on four years of study and observation in two Eastern universities.

Another wrote:

> I came to Stanford because I had noted with keen interest the educational ideals on which it was founded, and believed that such ideals must lead to a culture broader than that of any creed or party more reverent. I came also because at Stanford it is possible to be always in close contact with a beautiful natural world. One is much out of doors, which serves to keep things in good proportion. I came also because I wished to do special work in history, and had learned that Dr. Howard was an able teacher. It has been a good and satisfactory year.

Still another expressed in specific terms the general point of view:

Charm of California

> Through the East, to a great many people, California is a synonym for gold and flowers and perpetual sunshine. One reason I came was because it was to California, and I had long dreamed of that place. Again, I expected to go East to study medicine, and it was wise, it seemed to me, to spend the first few years of study in the West. Had I known of our superior advantages in the physiological and histological departments, that of itself would have been sufficient reason for attending Stanford.

The problem of enabling students to pay their way by work came up at Stanford much as it had

at Cornell in my own day. Here, however, there was no promise to provide employment for unskilled labor such as was at first made by Ezra Cornell. But opportunities for earning money were frequent from the first — gardening, chores, cooking, waiting on table, general house service, carpentry, and (more recently) the care and driving of automobiles.

Students as helpers

In the University itself, students — especially advanced ones — have been employed on an increasing scale as departmental assistants, cataloguers, stenographers, typists, laboratory helpers, and the like, an adjustment which is of great value not alone to the workers, but also to the professors, whose time it saves for more important things. There has also been a certain amount of opportunity in private tutoring, though this has never developed into a system for lifting the "tender rich" over examinations, a gross abuse in some Eastern institutions.

Fraternity chapter houses

Various college fraternities and sororities early established themselves at Stanford with my approval. Ultimately upward of forty chapter houses (subject to the general oversight applied to all students) were erected on the Campus. These have added much to the appearance of the residence section and have constituted an important factor in its social life, though not without some accompanying problems of a serious nature. But as I have already discussed the general fraternity question at some length,[1] I here refrain from further allusion to it.

[1] See Chapter III, page 60.

CHAPTER EIGHTEEN

I

THE first Commencement in the history of Stanford University took place June 15, 1892. On that occasion we conferred the degree of Bachelor of Arts on twenty-nine graduates, and that of Master of Arts on nine more — a relatively small group, which, however, contained a high percentage of scholarly and capable men and women.

The Yosemite

With the advent of vacation, Mrs. Jordan and I made a hasty trip to the Yosemite, entering the valley from the southwest by way of Wawona, where we passed the night and whence we visited the Mariposa Big Trees, the most familiar though not the largest of the several principal groups of the majestic *Sequoia washingtonia*.[1] The others are those of Calaveras, Tuolumne, and Tulare. One equally fine grove, that of the Converse Basin in Tulare County, fell before the lumbermen.

These forests constitute the oldest living plant representatives of an earlier geologic era. Originally the genus had a wide distribution in the north temperate zone, several fossil species having been found in Tertiary deposits from Greece northward through Europe and Asia, as well as in America, where fossil remains exist in the Petrified Forest of Arizona. But only in California has the Sequoia maintained itself through the vicissitudes of later periods. According to John Muir, special conditions which prevailed at the beginning of the last glacial

[1] See footnote, Chapter XVI, page 393.

recession left certain sections of the lower Sierran slopes (from 4700 to 7000 feet in altitude) particularly favorable for the invasion of this genus from regions farther south.

Planted in parks in England as well as in America, the young trees thrive perfectly. Yet the vigorous infants only a hundred or so years old at Kew and Warwick hardly reveal their identity with our stately and beautiful giants which have looked down on fifty centuries of unshifting mountain solitude, for the full-grown tree is almost as unique in beauty as in botanical relationship.[1]

Sequoia washingtonia

Borne high aloft on the huge satiny, cinnamon-hued bole, the delicate sprays of brilliant green foliage stand out with an effect indescribably lovely, especially in the sunlight. The largest example of this superb species (Calaveras Grove) is 45 feet in diameter 6 feet above the base, and 325 feet high. Only the sister form, the slender *Sempervirens* of the Coast Range, in any sense rivals it in majestic beauty. But the biggest redwood is less than 20 feet in diameter and barely 275 feet in height!

Other giant conifers

The Big Trees tower Titan-like above the magnificent pine forests which clothe the flanks of the Sierra Nevada. Here flourishes the Sugar Pine — *Pinus lambertiana* — the largest of its tribe, with enormous cones, dark green foliage, and straight, symmetrical mast, sometimes 10 feet through; "beyond doubt the noblest of all vegetables," declared its discoverer, David Douglas, the botanist. At

[1] On the Stanford Campus are several promising little Sequoias. The first was planted at Mr. Stanford's request in March, 1891, by ex-President Harrison. Later that good precedent was followed when other distinguished visitors came, among them John Hay and Theodore Roosevelt. In 1904, in accordance with Mrs. Stanford's wish, I myself planted a sapling near Encina Hall.

that time, however, Douglas had certainly not seen the Sequoia, nor of course the Giant Eucalyptus of the Blacks' Spur in the Break o' Day Range in southeastern Australia.

Far more abundant and scarcely less noble is the Yellow Pine — *Pinus ponderosa.* This lacks the stately symmetry of its neighbor, but its opulent spread, very long needles, and rosy-tinted, yellowish-brown bark bring it into easy rivalry.

Scattered through the forests occur other great trees, in particular the Incense Cedar — *Libocedrus decurrens* — and two or three species each of fir — *Abies* — and of spruce — *Pseudotsuga.* Northward the Douglas Spruce, the most abundant of these, gradually replaces pine and is the chief constituent of the great woods of Oregon and Washington.

How to tell fir from spruce

Spruce and fir look about alike to the uninitiated; long ago, therefore, I framed a discriminating bit of verse:

> F is for fir,
> It looks toward the firmament —

which, being interpreted, means that in all species of fir the cones point up, while in the spruces they all droop. Furthermore, on each spray of fir the leaf tips curve upward, so that looking down from above every leaf can be seen. Spruce leaves, on the contrary, surround the small branches, and the upper ones hide the lower.

Strolling out after dinner at Wawona, I encountered a typical mountain prevaricator who related how once when a Sequoia crashed to the ground, "the echoes were heard in the mountains for six weeks";

REDWOODS NEAR LA HONDA

PRUNE TREES, SANTA CLARA VALLEY

and in "a free fight" a friend of his showed himself so competent that "for three weeks afterward men were seen getting up around in the woods." Another yarn figured the mountain sheep or Big Horn, the rams of which are currently reputed to be able to plunge down a precipice, strike on their enormous prongs, and turn a somersault in safety. According to my informant a Big Horn once leaped off the edge of a chasm in the usual fashion of his kind. But halfway down, spying below a camp of hunters by a spring, he immediately turned over in midair, and was carried back to the top by momentum! *Cheerful tales of the Sierra*

In this connection I am reminded of a fact I have frequently observed, which is that some Easterners readily believe anything of California except what is true.

The road out of Wawona winds for miles down through superb forests which at Inspiration Point give way to reveal the stupendous panorama of the Yosemite, the delight of every geologist since John Muir first made known its grandeur. In general it has been compared, not inappropriately, to the valley of Lauterbrunnen in the Bernese Oberland. But its greatest cliffs — El Capitan and the Half Dome — are higher than Mürren; its falls — Yosemite, Nevada, Vernal, Bridal Veil, and Illilouette — mostly far exceed in volume, and some of them in height, the misty Staubbach and the turbid Schmadribach charged with glacial mud. Moreover, the view from Glacier Point far excels that from Mürren or from any other spot in Switzerland in its long-range disclosure of 200 square miles of ice-worn granite, extending from Cathedral Peak *Yosemite and Lauterbrunnen*

to Mount Starr King, though the mountains facing Mürren — Eiger, Mönch, Schneehorn, Jungfrau, Silberhorn, Gletscherhorn, and Ebnefluh — are incomparably more beautiful than Lyell and its fellows, because much nearer and covered with eternal snow. As for trees, the second growth of larch and pine in the Bernese Oberland, dainty as it is, bears no comparison with the Mariposa forests.

The preceding winter having been long and heavy, very few of the upper trails were open at the time of our visit. Our chief excursion, therefore, was up the Merced River to Vernal and Nevada Falls, then along the mountain rim to Glacier Point. Reaching the small Illilouette, swollen with melted snow, we found the foot-log ten inches or more under water. But rather than turn back, Mrs. Jordan insisted on crossing, a feat which so impressed the Park Commission, then in session, that it at once arranged for a bridge.

Nevada Fall and Rheinfall

After we passed the superb Nevada Fall, a German tourist who happened along persisted in comparing it with a cataract of his native Bavaria. "But you should see the Rheinfall at Schaffhausen," said he. The Rheinfall, however, though its stream carries four times as much water as the Merced, is merely a break of some sixty feet, only one twelfth as high as Nevada Fall. Moreover, nothing of the kind is finer than the glorious outward leap of the latter as viewed from the rocky ascending trail by its side; to my mind, only one other mountain cascade in America, the Great Fall of the Yellowstone, surpasses it in beauty. Yet I must not forget the superb double plunge of 2500 feet of Yosemite Fall on the north side of the valley, a veritable drop from the clouds.

2

The strenuous duties of the academic year, supplemented by continuous scientific work which I was not willing to abandon, rendered it continuously imperative that I should, whenever possible, find new vigor in the open. I have always been fond of riding and driving. For two or three years I used to ride about the country on a wiry, black bronco. Mr. Stanford rightly thought I ought to have a better mount, and he pointed out "Floodmore," a fine bay thoroughbred which he said should be mine when the foreman had given it a little more training. But after his death — which soon followed — the University was in such straits for money that I had not the heart to claim the beast, and he was sold with the rest, ultimately making a fine record as a racer.

Floodmore

Until the automobile owned our roads, I always kept a fine carriage span, which I drove almost daily about the great Campus. Three or four of my horses came from the Stock Farm, where those not likely to succeed on the race course were sold to the public. But even the less speedy animals were beautiful creatures and fine roadsters — sleek, sensitive, and intelligent.

For our trips to the many charming places within less easy reach, I often hired plebeian horses from the livery stables, and thus we covered in time many hundreds of miles in California. Our Yosemite outing was the first of a series of joyous excursions which brought us close to the heart of the land, and extended through the length and

Joyous excursions

breadth of the whole great state. Something of California's lure I had myself sensed while here in 1880. But it was not until it became our home that we could be truly called "Californiacs," to use the apt word coined by Inez Haynes Irwin. Having fallen under the spell, I tried to give others some notion, however incomplete, of the ineffable charm which bound and still binds us both. My essay entitled "California and the Californians" appeared originally in *The Atlantic Monthly*,[1] and has been thrice reprinted as a booklet. Across the intervening years, it seems to embody in a degree our "first fine, careless rapture," and from it, therefore, I now venture to quote.

Californiacs

She first loved us

> The Californian loves his state because his state first loved him. He returns her love with a fierce affection that to men who do not know California is always a surprise. . . .
>
> To know the glory of California scenery, one must live close to it through the changing years. From Siskiyou to San Diego, from Shasta to Santa Catalina, from Mendocino to Mariposa, from Tahoe to the Farallones — lake, crag, or chasm, forest, mountain, valley, or island, river, bay, or jutting headland — every scene bears the stamp of its own peculiar beauty, a singular blending of richness, wildness, and warmth. Coastwise everywhere sea and mountains meet, and the surf of the cold Japanese Current breaks in turbulent beauty against tall *rincones* and jagged reefs of rock. Slumbering amid the heights of the Coast Range lie golden valleys dotted with wide-limbed oaks, or smothered under over-weighted fruit trees. Here, too, crumble to ruins the old Franciscan missions, each in its own fair valley — passing monuments of California's first page of written history.
>
> Inland rises the great Sierra with spreading ridge and foothill, like some huge sprawling centipede — its granite back unbroken for a thousand miles. Frost-torn peaks of every

[1] November, 1898.

height and bearing pierce the blue wastes above, their slopes dark with forests of giant trees. . . . Dropped here and there gleam turquoise lakes which mark the craters of dead volcanoes, or swell the polished basins where vanished glaciers did their last work. Through mountain meadows run swift brooks o'erpeopled with trout, while from the crags leap full-throated streams, blown half away in mist before they touch the valley floor. Far down the fragrant canyons sing the green and troubled rivers, twisting lower and lower to the common plain. Even the hopeless stretches of alkali and sand, sinks or graves of dying streams, are redeemed by the Delectable Mountains that shut them in. And everywhere the landscape swims in crystalline ether, while over all broods the warm California sun.

Two seasons in California

As there is from end to end of the state scarcely one commonplace mile, so from one end of the year to the other dawns scarcely a colorless day. Two seasons only has California; but two are enough, if each in its way be perfect. Certain outside critics have called the climate "monotonous." Good health is equally so. In terms of Eastern experience, our seasons may well be defined as "late in the spring and early in the fall" —

> Half a year of clouds and flowers,
> Half a year of dust and sky,

according to Bret Harte. But with dust[1] follows an unbroken succession of days of sunshine and dry, invigorating air loaded with the fragrance of the resinous tarweed, while everywhere the land riots in a boundless overflow of vine and orchard. Each season thus brings in turn its fill of satisfaction. If one must indicate a choice, let it perhaps be June, for then the air is softest, and a touch of summer's gold o'erlies the green of winter. But October, when the first swift rains "dash the whole long slope with color," and leave the clean-washed atmosphere so absolutely transparent that even distance is no longer blue, has a charm scarcely less alluring.

As for man, he is never the climate's slave, never beleaguered by powers of the air; winter and summer alike call him out of

[1] Largely eliminated since the automobile came into common use and led to the building of thousands of miles of roads of asphalt and concrete.

doors. The Eastern habit of roasting one's self all winter long is unknown here, and the old Californian seldom built a fire for the sake of warmth. If cold, he went out of doors. The house was a place for storing food and keeping one's belongings from the wet; to hide in it from the weather was to abuse its normal function.

The Missions

The goal of many of our less arduous excursions was one or another of the old Franciscan Missions. These form a chain strung coastwise from San Diego to Sonoma, a distance of nearly 700 miles, each link about 40 miles long — that is, a day's journey on horseback. And the Fathers had a keen eye for good land with picturesque outlooks; so wherever you find a rich, warm valley filled in summer with soft, blue haze, hemmed in by wooded hills and opening westward to the sea, some old Mission stands not far away.

San Diego

The oldest of the series, San Diego de Alcalá, founded by Padre Junípero Serra in 1777, lies in a sheltered valley of the San Dieguito River, over behind the *mesa* ("table") east of the town. The original structure, however, was burned by the unredeemed, the Indians of that region being peculiarly refractory. The present ancient building is therefore not the oldest in the state, as the Presidio Chapel at Monterey is of earlier date.

San Luis Rey

Second in the chain, on an open plain by the side of a clear stream, dry of course in summer, stands San Luis Rey de Francia, architecturally one of the most beautiful and picturesque of them all. Being there through the middle of the day, we presented ourselves for luncheon at the adjacent old Spanish Rancho Guajome, with a *hacienda* consisting of several small stone cottages around a square *patio* —

an arrangement, I may add, not unlike that from which Jefferson drew the architectural motive of the University of Virginia. In the main building, Señora Coutts, widow of Lieutenant Cave J. Coutts, a classmate and friend of Grant, received us with old-time hospitality and dignity. In her youth a noted beauty, the Señorita Ysidora Bandini, she still retained a singular charm and vivacity, and her sprightly reminiscences of other times and other manners kept us keenly interested.

San Juan Capistrano

The next in order, San Juan Capistrano, with its splendid array of arcaded cloisters around a central quadrangular *patio*, furnished — as I have already explained — the art idea of Stanford, but was long since wrecked by a fierce *temblor* and remains a ruin, its portal guarded by the largest pepper tree in California. North of Capistrano are three minor foundations: San Gabriel Arcángel, unpretending, but still intact; San Fernando Rey de España, lately restored; and San Buenaventura, never large, and now reduced to a parish church.

Santa Barbara

Much bigger and rising from a splendid garden which overlooks the sea and offshore islands, stands the Mission of Santa Barbara. Built of stone, this edifice has remained intact and continuously occupied by Franciscan brothers. Its nearest neighbors to the north beyond the Sierra Santa Ynez, the high backbone of Santa Barbara County, are the twin establishments of La Purísima Concepcion and Santa Ynez Vírgen y Mártir, small but still in use. Next comes San Luis Obispo de Tolosa, at the foot of a row of four huge, separate, conical hills, unique in California scenery.

San Miguel Arcángel in the valley of the Salinas

River retains a series of cloisters behind a long arcade. Nuestra Señora de la Soledad on the rich pastures farther north, being made of adobe — sun-dried brick — has vanished utterly. San Antonio de Padua in the foothills of the Sierra Santa Lucia, one of the most picturesque of all, was rapidly falling to ruin up to the time of its recent rescue by the Landmarks Club. Its last padre, a touching figure, supported himself by the sale of geese, and of red tiles from the Mission roof.

San Antonio

San Juan Bautista and Santa Clara

Of San Carlos Borromeo, near Monterey, I have already written at some length. At Santa Cruz only one old wall still stands. San Juan Bautista, though lying close to California's great earthquake rift and several times badly shaken, is still in service. After the *temblor* of 1906, I gave a lecture in its old garden on the history of the Missions, for the benefit of the damaged church. The scanty remains of Santa Clara Vírgen y Mártir are now incorporated with the buildings of the University of Santa Clara. At the Mission San José, some miles from the city inheriting the name, little is left. San Francisco de Assis de los Dolores endures as a modest chapel still in operation in

Dolores

> That wondrous city, now apostate to the creed,

which still bears the name of the beloved saint. The two youngest and most remote foundations, San Rafael Arcángel and San Francisco Solano, were ill supported and soon abandoned; of them nothing now stands.

The downfall of the Missions followed inevitably on the seizure by Santa Ana (1840) of the famous "Pious Fund" gathered in Spain in the eighteenth

SAN FRANCISCO DE ASSIS DE LOS DOLORES IN FIESTA, JUDAS HANGING HIGH

Photograph of painting by Mrs. Oriana Day. Courtesy of Mr. Charles B. Turrill

century for their maintenance. In 1902 the fifty years' dispute concerning the Fund was settled by the Hague Tribunal, the decision being in favor of the Catholic Church of America as guardian of the Missions; and the sum in question, principal and interest, was promptly repaid by the Mexican Government. It is interesting to note that this particular case was deliberately chosen as the first to be considered at The Hague because it was thought unlikely to arouse undue partisan or national feeling. Our friend and neighbor, Attorney John T. Doyle of Menlo Park, a broad-minded and well-informed authority on Spanish-American affairs, prepared the elaborate legal basis for the Church contention.

The Pious Fund

3

With the reopening of the University for its second year, the faculty ranks were strengthened by several additional teachers.

Dr. Ewald Fluegel was a fine example of the best type of thorough and patient German scholar. While *docent* at Leipzig, he had been chosen editor of the proposed great Chaucer Dictionary by the British Chaucer Society of Oxford. To this work Dr. Fluegel gave his available time and energy up to the date of his death in 1914 — a calamity hastened by his distress at the outbreak of war. He had then completed only about half of the huge task, though the rest was already elaborately blocked out. For his ideal had been to present the language of Chaucer's time with absolute completeness and perfection of scholarship.[1] An excellent teacher as well as investigator, always considerate and optimistic, Dr. Fluegel was much beloved by his students and colleagues.

A Chaucer scholar

[1] Under his successor, Dr. John S. P. Tatlock, the work has been continued, with hope of its ultimate publication by the Carnegie Institution which had granted special aid to Dr. Fluegel.

Other strong men

Dudley resigned an assistant professorship at Cornell to accept the chair of Systematic Botany at Stanford. In California he devoted himself especially to the trees, leading his students on long and enthusiastic explorations of the Coast Ranges and the high Sierra. No one else has studied our great conifers so thoroughly or so lovingly. In recognition of his work to Systematic Botany, an interesting genus of the stonecrop group, found on the bluffs of the California coast, received the name of *Dudleya*. In 1911 he left for Persia on a botanical tour, but a breakdown in health when nearing Damascus forced him to return to California, where he died in 1913, leaving behind him the most fragrant of memories.

Dr. Augustus T. Murray, a graduate of Johns Hopkins, came to us from Colorado College as professor of Greek, and during twenty-eight years has been one of Stanford's strongest influences for high scholarship and right living. Dr. Frank Angell, for a time assistant to Wundt at Leipzig and imbued with his methods, was called from Cornell as professor of Psychology. Up to 1917 he also served the University as chairman of the committee on athletics, standing consistently for clean sport and honorable methods among students, coaches, and professors. It was through Angell's agency that Walter Camp, dean of athletic directors, came out from Yale as coach in 1892 and 1893, since which time his name has been continuously honored at Stanford. In 1916 Angell was for some months one of Hoover's assistants in the Commission for Relief in Belgium, inspecting and reporting on the Belgian side of food distribution, "a wonderful organization in every way worthy to be set alongside of the C. R. B. itself."

As instructor in Drawing, and later professor of Graphic Arts, came Arthur B. Clark from Syracuse University, a competent teacher with whose influence on student morale I shall later deal.

The Engineering departments were now greatly extended by the appointments of Albert W. Smith in Mechanical Engineering, Leander M. Hoskins in Applied Mathematics, and Charles B. Wing in Structural Engineering. These men all came from the University of Wisconsin — Smith and Wing (like their intimate friend, David Marx) having formerly been members of the Cornell faculty. In choosing them, I assured

President T. C. Chamberlin that I was paying him the greatest possible compliment — which I trusted he would properly appreciate! An attempt at the same time to secure Charles H. Haskins and Frederick J. Turner from Wisconsin's department of History was unfortunately less successful.

Smith, who enlivens his professional duties by verse making, is the author of our University Hymn, for which Mary Roberts Smith (now Mrs. Dane Coolidge) wrote the fine original music. *Smith as poet*

HAIL, STANFORD, HAIL!

1

Where the rolling foothills rise
Up toward mountains higher,
Where at eve the Coast Range lies
In the sunset fire,
Flushing deep and paling,
Here we raise our voices, hailing
Thee, our Alma Mater.

Chorus

From the foothills to the bay,
It shall ring,
As we sing,
It shall ring and float away;
Hail, Stanford, hail!
Hail, Stanford, hail!

2

Tender vistas ever new
Through the arches meet the eyes,
Where the red roofs rim the blue
Of the sun-steeped skies
Flecked with cloudlets sailing;
Here we raise our voices, hailing
Thee, our Alma Mater.

3

When the moonlight-bathed arcade
Stands in evening calms,

When the light wind half afraid
Whispers in the palms,
Far off swelling, failing,
Student voices glad are hailing
Thee, our Alma Mater.

After a successful career at Stanford, Smith went back to Cornell as dean of the Sibley College of Engineering. For the past two years, following the retirement of President Schurman, he has acceptably served as acting president of the university.

Wing at home and abroad

Wing is a man of large practical ability and experience. As acting chairman of the California State Redwood Park Commission [1] since February, 1911, he has rendered valuable constructive service to the state in the development and protection of a beautiful public property. Of his generous relation to the local municipality, I have already spoken. During America's participation in the Great War, he first served as expert Technical Officer with the 23d Engineers, U. S. A., a special volunteer regiment recruited for the building and maintenance of highways. Before its departure overseas, Wing conducted the ordering and purchasing of an enormous volume of necessary material. Commissioned as major, afterward lieutenant-colonel, he successfully organized the construction of railways, bridges, and roads for the use of our forces in France — the regiment's final assignment being the supervision (after the Armistice) of the work of 20,000 men engaged in the building of roads between Verdun and the Army of Occupation.

Hoskins, an admirable teacher of quiet and retiring nature, is greatly appreciated by his students, who "swear by" him on all occasions.

Dr. James Perrin Smith joined the staff as professor of Paleontology, coming to us from the University of Göttingen, though having been previously associated with Branner on the Geological Survey of Arkansas. As investigator, teacher, and friend, "J. P." has exercised a most wholesome influence over many students outside his department as well as within.

Robert E. Allardice, a pupil of Chrystal and for nine years

[1] The governor of the state being *ex officio* chairman. See also Chapter XXI, page 519.

assistant professor in the University of Edinburgh, came directly from that institution to our chair of Pure Mathematics, which he has held ever since. Though dealing with a narrow professional field, he is a man of generous culture and wide literary interests. Lionel R. Lenox, a graduate of Columbia, a former colleague of Richardson's at Lehigh, came as professor of Analytical Chemistry, work which he has successfully and faithfully carried for twenty-seven years. Arley B. Show was called from Doane College, Nebraska, of which he was a graduate, to our chair of Medieval History, a field in which he did consistently solid work up to the time of his sudden death in 1920.

Mary Sheldon Barnes

Mrs. Mary Sheldon Barnes, wife of our then professor of Education, and formerly teacher of History in the State Normal School at Oswego, New York, joined the Stanford faculty as assistant professor of History. A woman of remarkable intellectual insight and unique temperament, of frail health but serene, indomitable spirit, she worked always to the highest possible limit of her strength, and impressed her personality strongly on students. She died in London in 1898.

William Henry Hudson, a literary scholar, at one time secretary to Herbert Spencer, came to us from Cornell as assistant professor of English Literature, but returned to London in 1900. One of his several books of popular essays dealt with the Spanish Missions of California. Walter Miller, a former student in the Classical School at Athens, was called from the University of Missouri to our chair of Classical Philology, which he held until 1902. From here he went to Tulane University, and is now dean of the State University of Missouri.

Kellogg

Vernon L. Kellogg, afterward one of the most important factors in the University's development, also came at the time of which I write, as assistant to Professor Comstock, under whom he had studied at Cornell. Lecturing the preceding spring at Kansas University, I had been most favorably impressed by the personality and work of this young man. He was then state entomologist as well as secretary to Chancellor Snow, and although an intense specialist in certain little-known groups of insects, he had at the same time a fine literary taste and a ready pen. Coming to Stanford at my insistence, he rapidly rose to an independent professorship in Entomology.

After Thoburn's death in 1899, he jointly conducted with me the lecture course in Bionomics, in which subject he showed admirable accuracy and discrimination. Meanwhile we wrote together two textbooks which have had a wide sale, "Animal Life" (1900) and "Evolution and Animal Life" (1907), the latter embodying the substance of our lectures on those topics.

In "Animal Life" we attempted to put in clear form, for students' use, not merely a set of zoölogical facts, but also the most important general laws governing organic development. Thus for the first time in a school text the principles of evolution were brought into relation with the facts of biology. In both volumes, moreover, we abandoned conventional woodcuts for fresh photographs reproduced as halftones, a feature followed by most subsequent authors on the same subject.

A varied career

Among Kellogg's later publications I may especially mention several books on very different subjects, each most admirable of its kind: "Darwinism Today," "In and Out of Florence," [1] "Headquarters Nights," a study of the mentality of the German war caste, "Beyond War," "Insect Stories," "The Food Problem" (with Dr. Alonzo E. Taylor), and "Nuova, the New Bee."

Soon after the outbreak of war, Kellogg went to Europe as Hoover's associate on the Commission for Relief in Belgium, first taking charge in occupied France and afterward serving as director, with headquarters at Brussels, of work in both Belgium and France.

At all times, however, much of what we may call the "diplomatic" side of general relief fell on his shoulders; in this connection he visited Berlin, Paris, Warsaw, Rome, Vienna, The Hague, and Le Havre, this last the temporary seat of the Belgian Government. For such service he possessed special fitness because of his unquestioned scientific standing abroad and his intimate acquaintance with German thought and life — early gained by study and travel in Germany — added to a sympathetic knowledge of both Italy and France.

In 1919 the American Relief Administration made good use of his general ability and adaptability in missions to Poland and Germany; as head of Hoover's first food mission to Poland he made the primary arrangements which led to the provision-

[1] Published under the pseudonym of "Max Vernon."

ing of that country on a large scale. Associated also with Hoover while the latter was United States Food Administrator, he attended conferences of the Inter-allied Scientific Food Commission in Paris and Rome. Meanwhile he took an active part in the National Research Council at Washington, of which he is now permanent secretary.

Charlotte Kellogg

During all this time his efforts were supplemented by Mrs. Kellogg's splendid services both at home and abroad. As the only woman in the "C. R. B." to be admitted to Belgium, she worked unremittingly for the welfare of its women and children; to her devoted ability they gratefully testify, and her name will not soon be forgotten by them. More recently she has traveled through Poland and Serbia, with a view to ascertaining the outlook and needs of her sisters there.

George Clark

One of the most important additions of the year, though not in the teaching staff, was George A. Clark, secretary to the president, and later academic secretary of the University. Clark entered Stanford in 1891 as a graduate student in Latin from Minnesota. His conscientious and methodical devotion to all phases of executive work made him an indispensable aid throughout my administration. Absolutely devoid of self-interest, he never shirked a duty and never forgot a detail. His relation to the Fur Seal commissions (of which he was also secretary) I shall later mention. By his death in 1916 the University was deprived of one of its most valued members.

In the summer of 1893 six more professors were added to the staff. Nathan Abbott, in Law, a graduate of Yale, was a unique character, fond of paradoxes, and a great favorite with his colleagues; in 1907 he left to accept a chair at Columbia, where he still remains. Dr. Edward A. Ross, a Johns Hopkins man, came from Cornell as professor of Economic Theory and Finance; in 1900, he left Stanford, accepting a chair of Sociology in the University of Nebraska. Dr. John E. Matzke, a well-known philologist, was called from Johns Hopkins to the chair of Romanic Languages, as successor to Dr. Todd. This position he filled most acceptably until his lamented death in 1913 in the City of Mexico, whither he had gone as Stanford's representative at the inauguration of the National University there.

Fairclough's war service

To the original group of sturdy and devoted engineers trained at Cornell we now added John C. L. Fish in Railroad Engineering. Rufus L. Green, already mentioned, accepted a professorship in Pure Mathematics. H. Rushton Fairclough, a graduate of Johns Hopkins, came from the University of Toronto to the department of Latin, of which he has long been the head. Besides his excellent academic record (in the course of which he was for one year director of the American Classical School in Rome) I should mention also Dr. Fairclough's two years of distinguished service as Red Cross executive in Switzerland and Montenegro. As commissioner — with the rank of lieutenant-colonel — to the latter country, he was instrumental in permanently establishing four hospitals, three orphanages, and one industrial school, as supplementary to civilian relief.

In addition to the six already named, Stewart W. Young, a gifted research chemist who graduated from Cornell, came as volunteer instructor, rising soon to be professor of Physical Chemistry.

All teachers thus far enumerated had part in the formative period of Stanford University. Each succeeding year added others, many of them vitally related to the institution's later development and cherished by us as friends. But as this is not a history of the University, I feel forced to limit further special references to occasions that may arise, any other procedure being quite impossible. Even less possible is it to do justice to individual faculty women whose faithful devotion has been so important a factor in their husbands' success.

Tried and true

At the time of this writing (1920) the teaching staff, exclusive of departmental assistants, numbers over 250, more than fifty of whom are graduates of Stanford itself. Stanford men also hold chairs in nearly every prominent institution in the country, and we are further represented in the University of Sydney and in at least three universities in Japan.

CHAPTER NINETEEN

I

California's first automobile

In the early fall of 1892 I once more had the opportunity to help in testing a noteworthy mechanical invention. This involved the ascent of the neighboring peak of Mount Hamilton (seat of the Lick Observatory) in the first automobile on the Pacific Coast. For by that time the conception of the horseless vehicle had begun to spread, the gasoline engine having made possible its practical realization. In France a special interest had already developed, and a "self-moving" wagon, *automobile*, was minutely described in a French engineering journal. Using the information there given, a clever mechanician of San Francisco, Elliott by name, proceeded to construct a machine of his own. It ran well on level ground, but a test in hill climbing was of course necessary. This being arranged by the San Francisco *Examiner*, Bailey Millard, then its editor, asked me to accompany Elliott on the Mount Hamilton trip. Following in a carriage were representatives of the press, as well as Albert W. Smith, our newly appointed professor of Mechanical Engineering, with whom I changed seats toward the end of the run.

The machine crept gingerly up the twenty-six miles of sharply winding road to the summit, and in coming down wore out all the crude brakes devised by the inventor. But the essential fact remained that a horseless vehicle built in California had successfully climbed 4400 feet of mountain.

University extension

During the months that followed I was very busy in different ways, coördinating and solidifying the work of the University, and at the same time adding to my acquaintance by lecturing throughout the state, and by university extension work in Oakland, San Francisco, and San José. In the course of these efforts near home and farther afield, then and later on as well, I met a host of interesting people — men and women of vigor and initiative, of whom California has always had more than her share. Many of them, I am happy to say, became our intimate friends as the years went by; nearly all, I trust, have a kindly feeling for me and my wife; some are known and admired far beyond the confines of the state. Of a few, relatively, I shall now speak more or less briefly, and others will later cross my path; but a much greater number must remain unnamed, even though by no means unremembered.

Luther Burbank

Soon after my arrival in California I made the acquaintance of a scientific man of high rank, unique in character and method, and developed wholly outside the academic influence. Luther Burbank, plant breeder and plant creator, stands with the first in his field. His fine art rests on such a knowledge of plant inheritance that by means of crossing and selection he produces almost unerringly the definite results at which he aims. With plums, cactus, walnuts, and many kinds of flowers, Mr. Burbank has been especially successful. His garden at Sebastopol, near Santa Rosa, is one of the most interesting experimental stations in the world. From 1905 to 1912 he gave lectures at Stanford on

plant breeding, in connection with the course in Bionomics.

For several years the Carnegie Institution allowed a generous grant for the continuation of his work. That arrangement, however, carried so many necessary limitations that it became irksome to the recipient, who must proceed in his own way, making thousands of experiments at once and therefore not maintaining the minute records which would give his results greater scientific authority but meanwhile enormously restrict his output.

Burbank is a modest, quiet worker, with a keen eye, a deft hand, a quick intelligence, and a sensitive soul. He has put into practical use the inductions of Darwin, and has enriched the world with fruits and flowers which, save for him, would never have been more than conceivable possibilities. Among our men of science he is assured a high and honored place, not as "wizard" or "clever operator," but as a man of generous views, exact knowledge, and noble character.

Tribute by De Vries

In an address in San Francisco in 1904, Professor Hugo De Vries of the University of Amsterdam spoke of his American colleague with much enthusiasm:

> A unique, great genius! To see him is the prime reason for my coming to America. He works to definite ends. He ought to be not only cherished, but helped; unaided, he cannot do his best. He should be as well known and as widely appreciated in California as among scientific men in Europe.

This tribute by the master of plant genetics was virtually Burbank's first introduction to the general scientific world.

A reverent evolutionist

In the University of California were numerous teachers of ability and high character. Best known and best beloved was Dr. Joseph Le Conte, professor of Biology, whose acquaintance I first made in 1880. Le Conte had been one of the three Harvard students who composed Agassiz's original class in America, the others being William James and David A. Wells. He had a singularly sunny disposition, a lucid literary style, and a deep feeling for nature. An evolutionist of advanced type, he was, nevertheless, eager to conciliate rather than to confute opponents, so that his illuminating lectures on the so-called conflicts between science and religion did much to reconcile believers to the fact that the two phases of human thought must, as Darwin insisted, "each go its own way, even though the meeting point be far off."

Moses and Howison

Dr. Bernard Moses, professor of Political Science, a man of broad mind and strong will, was for years a very influential member of the California faculty. George H. Howison of the chair of Philosophy was the ultra-Hegelian of America. He preached the reality of the unreal, the objective existence of innate ideas, the supernatural nature of the state as an entity existing apart from the units that compose it. Speaking at one time of the "divine origin" of government, he was followed by Dr. Moses, who cleverly pleaded for the divine origin of wheelbarrows! A state, argued Moses, is an instrument to serve a need of humanity. So, in its degree, is the wheelbarrow.

Being at one time invited by Howison to speak before his Philosophical Society, I gave an address which I named "Standeth God within the Shadow."

In it I set forth certain principles with which my mind had for some time been occupied, and which constituted a sort of literary anticipation of what I later embodied in my essay, "The Stability of Truth," [1] elaborating the doctrines afterward known as "Pragmatism." Dr. Howison, though polite as always, was visibly disturbed by my deviation from his consistent idealism. *Pragmatism*

Dr. Martin Kellogg, professor of Latin, then acting president, later president of the institution, was a gentle spirit, quite averse to assuming responsibility of any kind. Following his death in 1899, Dr. Benjamin Ide Wheeler, professor of Greek at Cornell, was selected for the presidency. Of Wheeler and his successful administration I shall subsequently have occasion to speak. Among other able California scholars and friends of these and more recent days, I must mention only the one whose work lay nearest mine, Dr. William E. Ritter, professor of Zoölogy, an efficient investigator to whom was later entrusted the direction of the Scripps Institute of Marine Zoölogy at La Jolla, near San Diego. *Ritter*

But any reference to the University of California brings up the name of one who did most to strengthen and adorn the institution. Phœbe Hearst was a woman of great beauty of feature, of broad interests, especially in education, and possessed of a steady and constant purpose. Her numerous benefactions, large and small, gave her a warm place in the hearts of the people. Toward my wife and myself she was always most considerate; and when circumstances permitted, we went as guests to her beautiful coun- *Phœbe Hearst*

[1] Printed in *The Popular Science Monthly;* afterward (1912) expanded into a volume bearing the same title.

try home, Hacienda de la Posada de Verona, in the Livermore Valley.

Susan Lincoln Mills

With Mrs. Susan Lincoln Mills, the venerable founder and first president of Mills Seminary for women, I soon became well acquainted. As a graduate of Mount Holyoke, she had developed her school on the same lines; and when Mount Holyoke was expanded to the rank and title of a college, Mills followed, while at the same time retaining its elementary departments. This situation, however, had become anomalous, for it is no longer possible successfully to maintain college and secondary work in the same institution. Accordingly, at my advice, Mrs. Mills was persuaded (even if rather reluctantly) to abandon the preparatory work. The transition from seminary to college, necessarily abrupt, brought about a sudden and somewhat disconcerting reduction both in enrollment and in income, but later years have abundantly demonstrated the wisdom of the move. From time to time I visited the institution both as friend and counselor, for like every one else who knew the founder, I valued highly her sterling intelligence and devotion.

Among my new friends I counted also the heads of several private secondary schools of a high order. William T. Reid of Belmont, our near neighbor, was a man of genuine learning and broad vision, a Harvard graduate who had been for a time president of the State University, and who from the beginning supported us loyally. A little farther off, at San Mateo, Dr. A. L. Brewer and his son, William A. Brewer, both men of gentle breeding and scholarly taste, in charge of St. Matthew's School for Boys,

maintained cordial relations with us. About the bay Miss Sarah B. Hamlin in San Francisco and Miss Anna Head conducted excellent preparatory schools for girls. At Nordhoff, in the Ojai Valley above Ventura, Sherman Thacher from Yale was carrying on an interesting experiment. There, under conditions peculiar to California, in the upper reaches of an ample river valley almost surrounded by granite mountains, he has developed an excellent combination of study, play, and outdoor life.

A prominent figure in the rapidly developing public schools of those days was John Swett, city superintendent of San Francisco, an original and resourceful pioneer in education. Miss Jean Parker, a woman of clear mind and beautiful character, was leaving an indelible imprint on the secondary work in the same city. Charles H. Allen, president of the San José Normal School, was widely known and beloved as an inspiring leader. To Mrs. Sarah B. Cooper, I have already referred.[1]

Among the school people in southern California at that time, I may mention Edward Hyatt of Riverside, afterward state superintendent. Our acquaintance began auspiciously in the summer of 1891. Mr. Hyatt then appeared in my office with a prospective student and a jar of desert snakes, an endearing combination! Ten years later we enrolled the first of a continuous Hyatt Family series, eight in number, including Miss Stella McAllister, an adopted daughter; of these, seven have already graduated and one is now in the University, while a ninth has made application for admittance in due time.

An auspicious combination

[1] See Chapter v, page 122.

The names of many other fine and devoted spirits crowd on the mind, but space is limited and I must pass on.

2

In the '90's San Francisco was still the literary center of California, although Los Angeles was rapidly forging forward. But as a city the latter was very young, for at the time of my visit in 1880 it was only a half-Mexican village. Pasadena was then still known as the "Indiana Colony," and Riverside had just received its picturesque but not too appropriate name.

The era of Bret Harte, the first outbreak of *Overland* literature, was long since past, but the creative impulse remained vigorous here. Moreover, if poetry and the arts draw inspiration from varied and beautiful surroundings, they will ever find a natural home in California.

The singer of the Sierras

Easily the most picturesque personality on the coast when we came was Joaquin Miller, a unique figure — tall, straight, broad-shouldered, long-haired, and "bearded like a pard." A big, soft *sombrero*, high top boots, and coat to match completed the picture. A *poseur* undoubtedly, but simple-hearted as a child and altogether delightful. He was, moreover, a true poet, with a fine sense of word color and rhythmical values, as some of his verses, particularly those on Egypt, Columbus, and Walker in Nicaragua, amply testify.

In December, 1891, I invited him to address our students. On arriving, he explained that when he spoke before an audience, he always wore a white rose in his buttonhole. To me it was a new idea

to look for roses at that season, but fortunately I found one in the Escondite garden. The lecture was entitled "Education in China." It treated of many current subjects, — affection of doves, devotion to an idea, significance of world peace, — almost the only topics not mentioned being China and Education, and the text being from a new song of his, then unpublished:

> There are many tomorrows, my love, my love,
> There is only one today.

His own lines, inherently musical, he read most charmingly.

Looking at his great boots, little Knight piped up: "I know why they call you 'Walk-een.' It's because you *walk* so much!" — which infantile joke seemed to please the poet mightily.

Coolbrith, Cheney, and Markham

Ina Coolbrith, a woman of great personal charm, long city librarian of Oakland and afterward in charge of the Mercantile Library in San Francisco, had already earned unquestioned standing as a writer of delightful verse. Her later unofficial recognition as "Poet Laureate" of the state is amply justified. John Vance Cheney, a man of literary taste and ability as evidenced in a discriminating output of both poetry and prose, belonged at that time to the local coterie. As head of the San Francisco Public Library, and later of the Newberry Library in Chicago, he lived in the congenial atmosphere of books instead of that of briefs to which he had originally devoted himself.

Edwin Markham was then principal of the University Practice School of Oakland. In 1899, "The Man with the Hoe" gave him a national fame

"The Man with the Hoe"

and placed him permanently in the literary class. Of its poetic merit there is no question; its historic justice may, however, be doubted. "The Man with the Hoe," "brother of the ox," as painted by Millet, was not brought to his low estate by centuries of industrial oppression. He was rather primitive and aboriginal, persisting in a competitive world mainly because wars had destroyed generations of self-extricating, freedom-loving peasantry. He represents "the man who is left."

Cheney, in his fine response to Markham's poem (for which he used the same title) deals with an entirely different type of peasantry from that conceived by either Millet or Markham. His is the vigorous, unspoiled, independent man of the fields, —

> Long-wrought and molded with a mother's care
> Before she set him there.
>
> Of his rude realm, ruler and demi-god,
> Lord of the rock and clod.
>
> No blot, no monster, no unsightly thing,
> The soil's long-lineaged King;
>
> His changeless realm, he knows it and commands;
> Erect enough he stands.

Edward Robeson Taylor, the versatile head of the Hastings Law School, physician and lawyer alike, was the author of numerous sonnets, serious and artistic, his translations of the Spanish poet, Heredia, being especially admired.

Charles Warren Stoddard, the author of "South Sea Idyls," was a gracious writer both in prose and verse, and a man of most winning personality, who

counted a host of friends wherever he went. The faithful chronicler of "the splendid, idle forties" of Alta California, the days "before the *gringo* came," was Mrs. Gertrude F. Atherton, great-grandniece of Benjamin Franklin; in recent years the scenes of her sparkling novels and sketches have often been laid in Europe, where she has spent many years. John Bonner, essayist and literary critic, seemed in his virile personality to embody some of the color of the passing era, to which he properly belonged. With Lucius H. Foote, a scholarly poet of wide public interests, I had later close relations in the management of the Academy of Sciences.

The splendid, idle forties

In Los Angeles, *The Land of Sunshine*, a small but vivid "Monthly Magazine of California and the Southwest," the creation of its brilliant editor, Charles F. Lummis, — California's literary dynamo, of whom more later,[1] — levied toll on an admirable group in no sense purely local. As a matter of fact, many of them were as well known to Eastern circles as to their admirers here, and of some I have already spoken.

The Land of Sunshine group

Among them was Margaret Collier Graham, a woman of rare wit and noble character. Her "Stories of the Foothills" are full of color; her essays reveal great sanity, balance, and devotion to right living. Mary Austin we did not meet face to face for a number of years, but her rare sketches of life and nature in an unfrequented Sierran district compelled immediate admiration, for to the new atmospheric note was joined a clean and perfect artistry of phrase and figure, making "The Land

[1] See Chapter XXIV, page 621.

of Little Rain" and "The Flock" classics of their kind. Of her later work I need not speak, as it deals for the most part with a less specialized environment.

Unique in her way among these so-called "Californians" was Mrs. Charlotte Perkins Stetson — now Mrs. Gilman — lecturer, reformer, critic, and author of clever, mainly satirical verse. During its early years, Mrs. Stetson was a frequent visitor at Stanford University.

The dean of anglers

With Charles F. Holder of Pasadena, well known as a man of letters, biographer, and naturalist, I had many friendly relations. In California he was perhaps most gratefully recognized as the dean of anglers, the special expert and exponent of the joys of fishing for tuna, swordfish, and other monsters of the sea at Avalon on Santa Catalina Island; of a book called "Fish Stories," Holder and I were joint authors. George Wharton James, gentle apostle of the out-of-doors, friend of the Indians and historian of the Missions, I first met on Mount Lowe above Pasadena, where he appeared as expositor of the geological and scenic surroundings.

Good citizens too

Prominent in general Los Angeles circles was Dr. Norman Bridge, an able physician, a successful financier, a generous friend, and the author of charming essays on current social topics in literature and philosophy. In the same city labored "Bob" (Robert J.) Burdette, affectionately remembered the country over for the warm heart and fine wit he had displayed as humorist of the Burlington *Hawkeye*. I knew him also as a veteran of the Civil War, author of "The Drums of the Forty-seventh," a history of his regiment, and, incidentally, a telling arraign-

"ROLLING FOOTHILLS" ON THE "OLD FARM"

ment of war. The most unconventionally forcible among the clergy of the state, he was now expressing still another side of his versatile nature from a Baptist pulpit.

His marriage later to Mrs. Clara Bradley Baker of Pasadena brought two effective workers under one roof. Mrs. Burdette, a woman of unusual ability along many lines, is a prominent leader in the Federation of Women's Clubs, active in every good cause touching city and nation.

Muir and Keith

Of my earlier acquaintance with John Muir, priest of the High Sierra, I have previously had occasion to speak. "Interpreting the land in terms of color," — as Lummis once put it, — William Keith, Muir's countryman by birth as well as by adoption, stood easily at the head of the guild of local painters. Mr. Keith's early pictures were mainly direct and literal renderings of appealing blocks of landscape. His finer canvases — by which he is fairly to be judged — showed a deeper insight. With much of the emotional discernment of Inness, his friend, and something of Corot's poetic spiritualization of nature, he may be said to have expressed on this coast, in his way, the romanticism of the Fontainebleau school. His vogue has latterly declined here; his best efforts, nevertheless, remain what they always were, a source of permanent satisfaction to many.

Characteristic of many Keiths is a bright patch of sunlight piercing the somber shadow of live oaks. Once a brother artist said to him: "I know a kind of soap which will take out those white spots." But the sun was allowed to shine through the dark

foliage until the end, and in some such way the warmth and cheer of the man's personality brightened the lives of his friends.

Jack London

To a generation younger than any of those mentioned above belonged Jack London, the most widely known Californian author since Bret Harte. London, according to his own statements, was brought up in Oakland as a "wharf rat," regarding a capacity for hard drink as the test of manliness, and burdened with various other notions that had to be later unlearned. In "John Barleycorn," the most powerful temperance document in existence, he himself wrote about those years with the utmost frankness. He was a thorough master of trenchant English and picturesque incident. His venturesome soul and a defiant attitude toward conventional society early led him to the wilds of Alaska, as well as to those of "darkest London." Notwithstanding a repellent touch of the cynical and brutal, his stories are recognized masterpieces of their kind. His death in the prime of life was a distinct setback to American literature.

I first met him in Oakland as an attendant at my university extension course on Evolution. He was then a stocky young fellow of great physical strength and endurance as well as of decided individuality. Being much interested in the subject of my lectures, he became in some degree an intellectual disciple, a fact he freely recognized and testified to in "The Call of the Wild" and other tales. At one time I asked him to come to Stanford to read from his Alaskan stories. His manner was both modest and effective, and awakened the kindly personal interest of his hearers.

Somewhat of the same intellectual type was Frank Norris, a writer of more orderly method and deeper human insight, with scarcely less of virile force. The themes of "McTeague," and of his powerful trilogy of greed,[1] however, rarely wandered from San Francisco. His work, cut short by death almost at its beginning, gave promise of remarkable achievement in the interpretation of American psychology. *Frank Norris*

Among the younger women, Geraldine Bonner and Miriam Michelson deal with human life in vigorous fashion, the one especially with Californians, the other with the world at large.

3

California journalism, at the time of which I write, was vigorously personal and, in its highest ranges, bitterly sarcastic, loves and hates being unblushingly laid before the public. In his rôle of literary critic and public castigator, Ambrose Bierce was *facile princeps*. His biting "Prattle" column in the San Francisco *Examiner* was devoted to cynical criticism and sarcastic attacks upon writers of bad English, local versifiers, and those whom he deemed hypocrites. He thus served, though ungraciously, a certain useful purpose in repressing ill-founded enthusiasms and in reducing the output of inflated writing. A number of victims not otherwise famous were embalmed in satirical poems entitled "Black Beetles in Amber." *Ambrose Bierce*

One of Bierce's characteristic ways was to lend high encouragement to struggling young poets until,

[1] "The Wheat," "The Pit," and "The Octopus."

bored by their adulation, he would turn them down hard in sudden wantonness. Very few people ventured to cross swords with "the Prattler." But John P. Irish, a prominent political leader, an eloquent and effective speaker, once relieved his feelings in cutting words: "Now comes Ambrose Bierce, poor professional polecat!"

Bierce had served in the army, and his best work is found in a series of sketches entitled "Stories of Soldiers and Civilians," of which the two most powerful are "Killed at Resaca" and the "Horseman in the Air." When the Mexican Revolution broke out, he left to take part in it. No certain information as to his fate was ever received; it is, however, fairly well proved by James H. Wilkins, a journalistic authority on Mexico, that he was captured by a rebel band and shot against a wall not far from Monterey. To quote from one of his own poems, he

His awful humor

> Pursued his awful humor to the end;
> When, like a stormy dawn, the crimson broke
> From his white lips, he smiled and mutely bled,
> And having meanly lived, was grandly dead.

Yet in spite of an embittered genius, Bierce was capable of sweet and tender feeling, shown at rare intervals in his verse. "Another Way," "Presentiment," and "The Death of Grant" evidence this fact, so that to me he always seemed a fine and brave spirit whose life had been darkened by some hidden tragedy.

Contemporaneous with Bierce, and closely associated with him, was Arthur McEwen, also a free-lance journalist, author of some admirable sketches

of the human type known as "the man about town," and possessed of a gift of sarcasm nearly as biting as that of his colleague. Toward the last the two fell out. McEwen then published a review of his one-time friend so accurately vitriolic that it was held to avenge all the latter's many victims.

Fitch and Millard

In quite a different journalistic class were George H. Fitch of the *Chronicle* and Bailey Millard of the *Examiner*. Fitch, a serious, scholarly man of high ability, I had known at Cornell, where he had taken one of my botany courses. For many years city editor of the *Chronicle*, he also had charge of its literary pages; his book reviews and general discussions were always sound, often inspiring.

Genial Bailey Millard, long absent from the Coast, returned not long ago to edit for a time the *Bulletin*, one of San Francisco's evening sheets. When I first met him, he was a keen and kindly young fellow, beloved of all who came within the range of his personal acquaintance, and full of plans and expedients. Sometime in the early part of the century, while in New York as editor of Hearst's *Cosmopolitan*, he conceived the novel idea of giving a dinner for three men whom he regarded in some degree as sages or prophets — Edwin Markham, Hamlin Garland, and myself — with a stenographer to take down the conversation as it proceeded. But, as I remember, not one of us said a single smart thing, though both Markham and Garland had shown themselves amply capable of rising to form. When the material was ready for the magazine, Hearst ran his eye over the copy. "Cut out that stuff, nobody cares for it," was his comment.

A great occasion lost

John McNaught, editor of the San Francisco

Literary journalists

Call, was a serious and conscientious journalist who maintained a high standard for his paper, and resigned when the owners apparently wanted to adopt a more sensational or "yellow" policy. Jerome Hart edited with excellent taste and discrimination the famous weekly *Argonaut* founded by Frank Pixley, an original and colorful representative of the Bret Harte era. As the author of clever stories and unhackneyed travel sketches, Hart (like several of his colleagues) demonstrated the natural relation between good journalism and literature.

Among the women prominent in this field was Millicent Shinn, then editor of *The Overland Monthly*. While welcoming me to the state in friendly fashion, nevertheless — as an ardent apostle of the University of California, her Alma Mater — Miss Shinn kept a sharp lookout for educational heresies and any deviation from the methods of Yale, dear to her former professors.

A grim old fighter

In the south, General Harrison Gray Otis edited his own paper, the Los Angeles *Times*. Grim, obstinate, straightforward, and conservative, carrying on a consistent fight against organized labor on the one hand and liberalism on the other, he stood in a class by himself. A single incident may be cited as characteristic of the man. In 1911, in connection with a gathering at Riverside for the promotion of world peace, Otis was asked by Frank Miller (of whom I shall presently speak) to arrange for a full report of my address, which was the principal one of the occasion. To this request he at once assented, remarking, however, that "every man jack of us is opposed to peace in all its forms."

Accordingly, it gives me pleasure to say that in

1915 I received from General Otis the draft of a plan to ensure permanent peace. This was substantially identical with the suggestions made somewhat earlier by Hamilton Holt,[1] which afterward formed the basis of "The League to Enforce Peace."

4

Of the many engaged in the so-called learned professions, I had more or less intimate relations with a number far too great for enumeration here, and those whom I shall mention are not chosen on the basis of relative merit. For this is a personal narrative, not a discriminating history of the intellectual growth of California.

Provision having been made at the beginning for Sunday services at the University, we were for ten years largely dependent on the friendly generosity of clergymen of neighboring towns. Dr. Horatio Stebbins, the wise and self-possessed successor of Starr King in the First Unitarian Church of San Francisco, one of Mr. Stanford's intimate friends and a member of the original board of trustees, occupied our pulpit from time to time. Dr. Charles W. Wendte, then of the Unitarian Church at Oakland, an active and scholarly man, often spoke for us.[2] Dr. Charles R. Brown, the popular and effective Congregationalist minister of Oakland already mentioned, came frequently, his terse, eloquent

Stebbins, Wendte, and Brown

[1] "A League of Peace"; *The Independent*, early in 1915. See Vol. II, page 665.

[2] Since his removal to Boston, Wendte has been prominent in the world movement of "Free Christianity." This great international organization has for its basis two purposes: the establishment of the individual "right of interpretation" and the release of religion from all relation to the state and from all control by dominating hierarchies.

addresses being greatly appreciated. Furthermore, in his capacity as non-resident lecturer on "Personal Ethics," he was for four years one of the most vigorous and effective of all our teachers. To Dr. Jacob Voorsanger, rabbi of the Temple Emanu-El in San Francisco, a man of unusual mental and physical energy, we were also greatly indebted. His courses of lectures on Hebraic literature, as well as his frequent sermons, were of a high order of merit.

Voorsanger

Another one of our early friends was Dr. Robert McKenzie, pastor of the First Presbyterian Church of San Francisco, who acted as chaplain on the opening day of the University and gave us his loyal backing as long as he remained on the Coast. His colleague, Dr. John K. McLean, dean of the Congregationalist Seminary at Berkeley, was also a valued friend and adviser.

Other friendly neighbors

Of our many friends among the Methodists, Dr. E. R. Dille lent us continually the support of his moral strength. And, strangely enough, of those already mentioned he is the only one still left in California. Bishop William F. Nichols of the Episcopal Church, however, has been for thirty years our good friend and neighbor, a welcome guest whenever he finds it possible to preach before the University. From San José came Dr. Wakefield, the local rector, stately, gentle, well-beloved. And almost at our very door lived Dr. Peet, who, as soon as Palo Alto took form, had charge of the tiny All Saints' Church. With his slight figure, long silvery hair, saintlike face, quaint hat, and gracious ways, he might have stepped forth from the pages of Jane Austen.

No member of the Catholic communion has ever

felt free to speak in the Stanford Chapel. This fact, however, did not debar its clergy from sympathy with our work. Archbishop Patrick Reardon was a warm friend of the Stanfords, and my own numerous personal relations with him were of the pleasantest kind. A man of noble presence, wise and patient, he exerted a strong influence in morals and religion. Among many other activities he was the founder of St. Patrick's Seminary, at Menlo Park, for the training of priests.

With the local legal group, as such, our academic ties were naturally not so close as with the clergy. At one time, however, certain judges of the higher courts held our fate in their hands, and to them I shall subsequently refer. Another lawyer whose acquaintance I made soon after my arrival in California is Warren Olney, a veteran of the Civil War, and now since many years an honored member of the San Francisco Bar. *Olney*

As for the physicians, they took from the first a generous interest in the development of Stanford, especially in its scientific departments and in the Medical School which came as a natural outgrowth. One of the most highly esteemed was Levi Cooper Lane, an extremely skillful and unselfish surgeon, the founder of Cooper Medical College named for his uncle, Dr. Elias B. Cooper. Before his death, Dr. Lane arranged to have the property of that excellent institution, worth upward of a million, turned over to Stanford as the nucleus of a new and stronger organization. Distinguished members of the old Cooper group, and later of the Stanford faculty, though they soon entered the emeritus list, were *The Cooper staff*

Adolph Barkan, Joseph O. Hirschfelder, and William P. Gibbons, Jr.

Many others of the medical fraternity stood in close and friendly relations to Stanford in its formative years, among them one of our Menlo Park neighbors, Dr. James H. Stallard, a decidedly original and capable English physician who spent his surplus energies in the enjoyment of fine music and a zealous advocacy of the single tax. In many ways Stallard's point of view remained distinctly British, and he recalled with pride the fact that he had been physician to Lady Byron.

Stallard

5

Sutro

Among the notable citizens of San Francisco was Adolph Sutro, a wealthy Jewish mine-owner — originally from Aix-la-Chapelle — who had risen to prominence in California through his own energy and foresight. I met him first in the spring of 1892, while Andrew D. White was giving his course of lectures on European History at Stanford. White had traveled from the East with Mr. and Mrs. Andrew Carnegie in their private car, and Mr. Sutro invited him, the Carnegies, and ourselves to "breakfast" at his home on Sutro Heights. I remember well the keen play of wit that there took place among those three brainy men, so very different in personality. But we all agreed with our host in his main contentions — that is, as to the value of scientific knowledge in all its branches and the importance of libraries for its increase and diffusion. Mr. Sutro was also deeply interested in the beginnings of science and of the art of printing,

and had ransacked Europe for "*Incunabula*" of printing and block engraving.

Afterward when I met him on various occasions, our discussions always hinged on his plans for the great Sutro Library of rare books and scientific works, later established by him in San Francisco, and finally presented to the state by his daughter, Dr. Emma Sutro Merritt. Unfortunately half of it, including most of the ancient tomes and ecclesiastical volumes, burned in the earthquake-fire of 1906.

Valentine and Mills

A genuine patriot, in the sense of devotion to public welfare, was John J. Valentine, president of the Western Union Telegraph Company. One of his special interests lay in the preservation of the high tone of our foreign policy. An address of mine,[1] having attracted his favorable attention, was published by him in booklet form and distributed far and wide as a tract against imperialism. William H. Mills, another valued friend, long closely associated with Stanford, was a man of high ability, literary as well as financial.

A strong woman

In Los Angeles, Caroline L. Severance, "the Mother of Clubs" and center of a host of admirers, exerted a remarkable influence on the whole community. Madame Severance was especially interested in the various phases of the struggle for justice to women.

General Lowe

At Pasadena lived General Thaddeus S. C. Lowe, founder of the Lowe Observatory. His life was throughout that of an active and persistent inventor, always with some large and usually successful scheme on hand. In early manhood he constructed balloons for the study of atmospheric phenomena.

[1] "Lest We Forget." See Chapter XXIV, page 616.

As head of the Army Balloon System during the Civil War, he rendered distinguished service, after which a long series of remarkable and varied inventions were produced by him.

The Mission Inn

At Riverside, my wife and I early found a warm personal welcome at the hands of Frank Miller of the Mission Inn, host *par excellence* and lover of his kind, who has long been a dynamic force in promoting many forms of the common good. And the picturesque hostelry over which he presides with the efficient aid of all the other members of his devoted household, is to me the most charming I have ever entered. Its fame, indeed, is world-wide among travelers. A tourist whom Miller once met at Carlsbad, and to whom he explained his quest for new ideas for increasing the attractiveness of his house, said, in substance: "You don't need to look farther. In your own country you will find a hotel which meets the requirements better than any over here. It's at Riverside, California."

The Mission Inn opens its doors in a peculiarly personal and generous way to all gatherings looking toward civic advance and general human betterment. It thus holds a position in the state which no other similar establishment has in any degree attempted to occupy.[1]

[1] Miller is locally interested in the romantic utilization of Mount Rubidoux, a conical peak of granite adjoining the city of Riverside. On its sharp summit he some years ago installed a tall cross dedicated to the memory of Padre Serra, and there at dawn, each Easter morning, is held an impressive religious service in which the whole community unites. On a photograph showing two distinguished guests at the foot of the Serra Cross, I wrote the following:

> John Burroughs, James MacDonald, tell me when
> Has any mountain top borne braver men?
> What freak of friendly fortune lent these two
> Thy consecrated summit, Rubidoux?

In Sacramento labored three men conspicuous for their breadth of mind and intelligent interest in public affairs. These were Harris Weinstock, David Lubin, and Albert Bonnheim. When I made their acquaintance, they represented the firm of Weinstock, Lubin & Co., a great distributing department store. Mr. Weinstock is the author of an excellent book, "Jesus the Jew" — an attempt to portray Jesus as seen from the standpoint of a cultured Hebrew. To this, at his request, I wrote an introductory note. David Lubin was deeply absorbed in the problems of the farmer, and ultimately developed at Rome, with the sympathetic coöperation of Victor Emanuel II, the International Institute of Agriculture, to which he devoted life and means. Albert Bonnheim I came to know best as the friend of struggling students. Through his generosity a number of young men and women at Stanford and the University of California were quietly helped to continue their education.

A Sacramento trio

Outstanding figures in northern California were General and Mrs. John Bidwell of Chico, owners of the famous Rancho Chico and intimate friends of the Stanfords. Both were noted for their large-hearted hospitality, public spirit, and devotion to the common good. Mrs. Bidwell, who survived her husband by many years, busied herself among other activities with the cause of temperance and that of equal suffrage.

The Bidwells

In a wholly different category, but too extraordinary a figure to be easily overlooked in any discussion of the period with which I am now dealing, was one "Peralta-Reavis" — originally James

Addison Reavis of Missouri, a prosperous and plausible gentleman, exploiter of the famous Peralta Claim to lands in the Southwest. Him I did not meet, however, until 1905, just after his release from the prison to which he had been consigned by a relentless Fate. He was then still tall, erect, of military bearing, with the general appearance of a somewhat battered soldier or perhaps of a stranded journalist. A soft, persuasive voice, at once plaintive and enthusiastic, lent to his manner a friendly and confidential tone. With him was a son, a good-looking, half-Mexican lad somewhere in the teens. Reavis said they were both present on the opening day at Stanford, on which occasion "the Governor" took up the child, remarking: "You shall go to Stanford University." "And so he shall," declared the father; but to my knowledge the youth never came.

A monumental romancer

"Peralta-Reavis" will long be remembered as the author of the most gigantic, as well as the most artistic, land fraud ever attempted. On the basis of alleged old Spanish grants, he laid claim to 12,500,000 acres (a tract five times as large as the state of Connecticut) lying in a rectangle extending from beyond Phœnix, Arizona, to Silver City, New Mexico. The contention was supported by a wealth of false details of registration in Madrid and Guadalajara, and bolstered by a variety of circumstantial evidence. In the latter nothing had been overlooked, ancestral portraits and high adventure playing their part along with violated documents and forged deeds.

Some time before, a dubious "Peralta Claim" had been put forward by Don Miguel Peralta of

San Diego, who insisted on his right to a million acres of land in Arizona. Reavis, by hook and by crook (especially by crook), became possessed of this claim, which he then proceeded to extend amazingly by developing in the name of his Mexican wife, Sofia Maso y Silva, another one of tenfold importance. To that end he devised for her an imposing Peralta lineage reaching back to the imaginary but very noble Spanish grandee, "Don Miguel Nimecio Silva de Peralta de la Córdoba, Baron of Arizona and Gentleman of the King's Chamber, with access at all times to His Royal Person"; half a dozen other titles were also appropriately vouched for in the records. It further appeared from the documents presented that Don Miguel became owner of a vast extent of Mexican lands through a royal *cedula*, or decree, issued after his appointment as Royal Inspector for New Spain by Philip V in 1742.

The Baron of Arizona

In the words of Will S. Tipton, the astute Spanish scholar who finally ran him to earth, Reavis

> invented the property, the royal *cedulas*, the wills, the probate proceedings, and a long line of noble ancestry. He brought into existence a grandee and descendants for three generations, carried them with all a novelist's skill through the vicissitudes of life across the changes of a century and a half, and came near securing the solemn confirmation by government of a principality that never existed to the alleged heirs of persons who never lived.[1]

After long and persistent investigation, legal and linguistic, by able experts of whom Tipton was the chief, the whole scheme was unraveled, and "Peralta-Reavis, Baron of Arizona," was convicted

[1] See *The Land of Sunshine*, February, 1898.

(1895) of fraud and forgery, and sent to the State Penitentiary at Santa Fé. But the man has something of the poet in him, and his work bore the stamp of unmistakable genius.

6

Welcome guests

During the first decade of Stanford University, Easterners still looked upon California as very remote. Nevertheless, other welcome visitors followed Mr. White, among the earliest of them President Eliot of Harvard, serene, clear-eyed, and fearless, one of the few university executives able to look past the next generation into the long future. John Fiske, philosopher and historian, charmed us by his broad views of life and human affairs, as well as by his friendly interest in the work of the infant institution. And Prince Serge Wolkonsky of St. Petersburg, a brilliant historical scholar, twice addressed the university audience on subjects connected with his American experiences.

James Whitcomb Riley, my old friend, read to us in delicious fashion a number of his Hoosier poems, thus bringing down upon himself the wrath of Ambrose Bierce.[1] Frederick Warde, the Shakespearian actor, "Ian Maclaren," and Ernest Thompson Seton also spoke, each in his own tongue.

Miss Eleanor Calhoun, a talented young woman of unusual beauty, grandniece of the famous political leader, delighted us with a reading in French from certain rôles she had played in Paris at the *Comédie française*. Born and bred in the Tehachapi, a picturesque though barren mountain upland of

[1] See page 461.

Southern California, she there developed under the tutelage of her gifted mother a power of charming impersonation, with the rare traits of voice and talent shared in a degree also by her three sisters. When we made her acquaintance she was, I believe, the only English-speaking actress who had ever studied at the *Conservatoire* and appeared with a French company on the *Comédie* stage, the most exacting in the world. It was in London, however, that she achieved theatrical success and afterward made a romantic marriage with the brilliant expatriated Serb, Bouk Lazarovich-Hrebelianovich, ranking lineal descendant of the last Serbian emperor, Tsar Lazar Hrebelianovich, who was overthrown by the Turks in 1389 on the famous field of Kossovo, and promptly beheaded by them.

An interesting career

Lazarovich and his wife are joint authors of an elaborate and interesting work entitled "The Servian People." In "Pleasures and Palaces," Madame Lazarovich has written charmingly of her early experiences.

In the fall of 1894 came Professor Karl Lamprecht, the noted historical scholar, who was making an extended American tour. But I felt that he had utterly failed to grasp the spirit and tendencies of our democracy. In its individualism and freedom from official discipline this diverges widely from Bismarckian ideals, the subservience of the individual to the nation, which to him represented the acme of social development. Afterward I had reason to believe that his attitude was largely determined by too great reliance on the point of view of certain unassimilated "German-Americans." His diary, "Americana," published in 1906, contains

A Bismarckian critic

many curious observations. Commenting on the elemental character of American society, our "animal relation to nature," he says:

> The American lives with nature like an animal; he delights in wasting time with her; he loves her as well as in him lies, and lacking utterly the pantheistic conception which looks upon nature as a whole and as the highest kind of artistic work. . . . He finds especial joy in camping out, in the views from a cabin, the glint of the sun on the ocean, the solemnity of the forests, the loneliness of the prairies, and the rocky solitude of the great mountains.

Lapses from German grace

Americans of German descent are also taken to task by the writer for lapsing into the same crude, elemental ways, for their lack of self-assertion, and their

> falling into the habits of folk of British origin, from whom in a generation or two they become indistinguishable, developing nothing of the political views which have been growing stronger and stronger in Germany since 1870.

Our Westerners he compares to the peasantry of the Middle Ages, and quotes from Herndon's "Life of Lincoln" to the effect that the general mental and moral conditions prevailing on the prairies of Illinois in the first half of the last century were more like those surrounding the English peasants in Richard Cœur-de-Lion's day than like any recent phase:

"Primitive" Americans

> Amid the relaxed experience of Western life the lower sort of American has tended to revert toward the social state ancestrally extinct before America was discovered.

From this sad condition German immigration, in his judgment, should have served to "redeem"

the American people; in that, however, it had miserably failed, the leaven of German culture being lost in the lump.

Our greatest preacher

In 1896 William J. Bryan, then Congressman from Nebraska, visited the university and gave an address on the menace of the gold monopoly. This was substantially identical with his "cross of gold" speech which soon enthralled the Democratic Convention of the same year and led to his first nomination for the presidency. Endowed with a rich, full, organ-like voice, he handled his periods in eloquent fashion. But we were not impressed with the profundity of the discourse, though we recognized its generous human feeling and the orator's skill in touching the emotions of the common man. Many years of subsequent acquaintance have not materially changed my opinion of him as a moral exhorter of high order, in some respects the greatest of American preachers. For to an increasing degree his energies have seemed to turn from politics toward social betterment.

CHAPTER TWENTY

I

Death of the founder

In June, 1893, I went with Mrs. Jordan to Sisson at the foot of Mount Shasta, intending to spend there a month's vacation. But one morning when I had climbed to snow line on the mountain, I was overtaken by an Indian on horseback bearing a telegram which announced the sudden death of Mr. Stanford. Hurrying home full of distress for Mrs. Stanford in her grief, and saddened by a sense of personal loss, we soon discovered that the whole face of things was changed at the University — and this through no fault of the founders or of the educational staff.

Apoplexy had been the immediate cause of Mr. Stanford's death. Behind that, however, lay no doubt his apprehension of the tremendous financial strain which he realized would fall upon him, for a special reason, in the panic he saw approaching; as to this particular matter my information was derived solely from Stanford himself.

Southern Pacific owners

At that time the entire Southern Pacific corporation (with which the original Central Pacific had been merged) was held by the estates of the four builders, Leland Stanford, Collis P. Huntington, Mark Hopkins, and Charles Crocker — the last two being already deceased, and Huntington having with characteristic adroitness secured a little more than one fourth of the stock and then ousted Stanford from the presidency, which he himself assumed. Meanwhile, relying on Huntington's promise that his (Stanford's) share of the earnings

still undivided — a sum upward of three millions — would be shortly turned over in full, Stanford borrowed about two millions at the bank to cover expenses incurred in the building and maintenance of the University. Shortly before the latter's death, however, Huntington notified him that the railroad could not pay the promised sum, it being, in fact, already loaned out! The only explanation of this apparent breach of faith was that "it helps the standing of a railroad company to be known to have money at interest."

An unforeseen dilemma

[Huntington, as is well known, maintained a rigid code of ethics of his own framing. It was, however, a code of power, currently described about as follows: "Whatever is not nailed down is mine. Whatever I can pry loose is not nailed down."]

Stanford now faced a crisis in his relations to the bank, a matter that preyed upon his mind and affected his health. Death threw his estate into the jurisdiction of the Probate Court, a necessary procedure protecting the property from attack by individual creditors, but at the same time debarring the University, as such, from participating in the receipts until all indebtedness could be canceled. And while as a "going concern" the liabilities of the Stanford estate (borrowings and legacies — about eight millions in all) were not inordinate, as property to be settled with a view to retiring from business, its condition was desperate, as will later appear. And so began a long struggle to protect it, clear it of debt, and make it secure as the university endowment. This effort lasted for six years, meanwhile testing the devotion and determination of the surviving founder to an almost incredible ex-

In the Probate Court

tent. The strength of character then revealed by Mrs. Stanford more than justified the confidence reposed in her by her husband. But of that much more in due time.

Leland Stanford's funeral

Mr. Stanford's funeral was attended by a great concourse of people, for as man and as friend he was held in the highest esteem. Conspicuous among those present were the employees of the railway company, who felt for him a genuine reverence and affection. The service was conducted by Dr. Horatio Stebbins, whose stately discourse ended with words memorable for their truth and justice:

> Bearers, men of iron hands and iron hearts, gentle down your strength a little as ye bear his body forth — 'tis a man ye bear — and lay it safely in its last strong resting place.

2

His early life

As Leland Stanford's idealism has concerned so large a part of my own life, I shall here diverge to touch upon some of the salient points in his character and history. He was born in Watervliet, Albany County, New York, on March 9, 1824, and died at Palo Alto, June 21, 1893. His early education he received at the well-known Cazenovia Academy. Having afterward finished his preparation for the profession of law, on September 30, 1850, he married Jane, daughter of Dyer Lathrop, a business man of Albany, and settled at Port Washington, Wisconsin. There, however, he soon lost all his belongings by fire, upon which he decided to try his fortunes in California (whither he went by the old overland route), while Mrs. Stanford, returning to her parents' home, awaited a favorable opportunity to rejoin him.

LELAND STANFORD, ABOUT 1890

Arrived in California in 1852, Stanford's first venture was the establishment of a general merchandise store at Michigan Bluff, a mining camp on the American River. Thence he moved (1856) to Sacramento, the great distributing point of the region, where he resumed the practice of law. Becoming soon a prominent citizen, he was chosen as a delegate from California to the Chicago Convention which nominated Lincoln, whereupon, having prospered in business, he planned to return and settle permanently in the East. But his selection as Republican nominee for the governorship of California — and subsequent election to that office — kept him a resident in the state of which he was for a generation the most conspicuous public figure. As "war governor" during the critical period from 1861 to 1863, he immediately took his stand for the Union and, ably seconded by Starr King, was a decisive force in holding California against secession. He thus became one of Lincoln's trusted associates.

General merchant

War governor

Another noteworthy contribution to both state and nation was the earnest advocacy — in his inaugural address, which powerfully influenced the whole country — of a transcontinental railway connecting California with the rest of the Union. For this purpose the national government, alive to the pressing need, first made offers of large grants of land along the proposed line, and subsequently loans of money for the completion of the scheme. The system was then developed in two parts, by separate corporations — the Union Pacific from Omaha to Utah, and the Central Pacific, undertaken by Stanford and his partners, eastward from Sacramento to Utah, Ogden being ultimately made

Railway builder

the point of division. Many obstructions, political and financial, were from the outset encountered by both companies,[1] but the transcontinental line was at last finished in May, 1869. A picturesque incident, the driving of a golden spike at Promontory, the original junction, celebrated the great achievement.[2]

The last spike

From the generous earnings and the sale of bonds (not stocks) of the Central Pacific, Stanford and his associates afterward built the Southern Pacific from New Orleans to San Francisco and Portland. The Central Pacific was then leased to the Southern Pacific and virtually absorbed by it, the ownership of the two remaining the same.

United States Senator

In 1885, toward the close of his active business career, Mr. Stanford returned to political life as United States Senator from California; in this capacity he was still serving at the time of his death. At Washington his activities were characterized by an interest in general agricultural welfare and a wholesome degree of independence in party affairs,

[1] One capitalist who was invited to join Stanford in the venture told me that he himself "would not have touched it with a ten-foot pole," so slight seemed the chances of success. As a matter of fact, the promoters were obliged at times to pay 12 per cent monthly interest.

[2] Mr. Charles B. Turrell, an early agent of the Central Pacific, explains that none of the four builders had at the outset any thought of carrying through alone the great work undertaken by them. As citizens of Sacramento, interested in the welfare of town and state, they proposed merely to start the project, hoping that some wealthier corporation would complete it. But as time went on, they found that they themselves must cross the Sierra to meet the Union Pacific or lose all they had put in. Checked from time to time in the foothills about Dutch Flat by lack of resources, "the Dutch Flat Swindle," as it was often derisively called, struggled on month after month. Finally, under the direction of Theodore Judah, a highly competent engineer, the work was carried to triumphant completion. One cause of success lay in the fact that whatever else suffered the workmen were regularly paid, even though at times the families of the partners may have had to do without ordinary comforts of life, not to speak of luxuries.

especially in postponing and thus defeating the ill-considered and exasperating Lodge "Force Bill" of 1890, which provided for Federal control of elections in the Southern states.

Leland Stanford's far-reaching influence never rested wholly or even mainly on wealth. Indeed, during his early career he was far from affluent, and a fundamental simplicity of life kept him always in touch with the people. In person of massive build, and rather slow-spoken though extremely direct and earnest, he had a considerable fund of dry humor, and a rarely beautiful smile which illumined his otherwise impassive face. Broad-minded and long-headed, he was a keen but sympathetic and benevolent observer of human nature. I never heard him speak in bitter terms of any opponent. His kindness of heart was naturally sometimes imposed upon by political and other parasites; yet even in these matters he was seldom deceived, being able to penetrate the various masks with which ambitious impecuniosity tries to disguise itself. In the words of his secretary, Herbert C. Nash, "he was active when other men were idle; he was generous when other men were grasping; he was lofty when other men were base."

Kindness of heart

Caring nothing for creed or ceremony, he had nevertheless a deeply religious nature. To him, the fundamentals in religion constituted the basis of character. He recognized certain emotional values, however, and his theological position, the result of clear thinking combined with warm feeling, might have been partially defined as "Unitarian Methodist." His conception of the goodness of God, the measure of divine bounty, he put into the form of

Religious attitude

an epigram which, with his approval, we placed on the title page of the University Register:

> The benevolence of the Creator toward man on earth, and the possibilities of humanity, are one and the same.

Afterward, a sentence in one of my early addresses, "A generous education is the birthright of every man and woman in America," caught his attention, and he asked to have that appear with the other. After his death, Mrs. Stanford wrote:

> If a firm belief in a beneficent Creator, a profound admiration for Jesus of Nazareth and His teachings, and the certainty of a personal life hereafter, constitute religion, then Leland Stanford was a religious man. The narrow walls of a creed could not confine him; therefore he was not a professed member of any church, for in each confession of faith he found something to which he could not subscribe. But for the principles of religion he had a profound veneration; in his heart were the true sentiments of Christianity, and he often said that in his opinion the Golden Rule was the corner stone of all religion.

Freedom from entanglements of church or party

As a natural outcome of this attitude he provided in the endowment grant that the University was to be free from all ecclesiastic ties, while at the same time it should teach the basic principles of religion and morality.

In the document he also directed that it should be kept free from political as well as sectarian entanglements.[1]

In other regards, the grant concerns only educa-

[1] The two provisions just noted were later more explicitly stated by Mrs Stanford:

"The University must be forever maintained upon a strictly non-partisan and non-sectarian basis. It must never become an instrument in the hands of any political party or any religious sect or organization. . . . The moral and religious development of the University will be better accomplished if utterly free from all denominational alliances, however slight the bond may be. . .

tion, pure and simple, without hampering clauses. His broad point of view was expressed as follows:

> We hope that this institution will endure through long ages. Provisions regarding details of management, however wise they may be at present, might prove to be mischievous under conditions which may arise in the future.

Of philosophical discussions, particularly as related to education, he was especially fond. In the two years preceding his death we spent many evenings discussing education in general and the University's relation to its students and to the public at large. His educational ideals, largely drawn from practical experience, were also in part a reflex of the views of certain friends, especially Agassiz, White, and Gilman. A conception of education as "training for usefulness in life" was his central idea. But to him usefulness meant not only material efficiency, but intellectual and spiritual helpfulness also. On the influence of the teacher as a moral force he laid great stress. His primary concepts, with all of which I was in full sympathy, involved individualism in education, early choice of profession, and broad-based specialization along some particular line. From Agassiz he had derived a realizing sense of the impelling force of man's intellectual needs — "that hunger and thirst after truth that only the destitute student knows."

Training for usefulness in life

No profession of religious faith or belief shall be exacted of any one for any purpose."

Again, on October 3, 1902, in an address to the permanent board of trustees that day organized, she further said:

"Unless it maintains a strictly non-partisan attitude upon all political questions, this institution with its large resources might well become a public menace and forfeit all right to the special consideration it has received from the hands of members of all parties."

"Man's physical wants are slight," he often said, "but his intellectual needs are bounded only by his capacity."

The value of the study of Political Science as a remedy for defects of government was clearly seen by him:

> All governments are governments of public opinion, and in the long run every people is as well governed as it deserves. . . . Legislation has not, as a rule, been against the people, but it has not done the good that it might. . . . No greater blow can be struck at labor than that which renders its products insecure.

Value of coöperation

Voluntary coöperation seemed to him a great force for good. Laying the corner stone of the Inner Quadrangle, he said:

> Out of these suggestions grows the consideration of the great advantages, especially to the laboring man, of coöperation, by which each individual has the benefit of the intellectual and physical forces of his associates. It is by the intelligent application of these principles that there will be found the greatest lever to elevate the mass of humanity, and laws should be formed to protect and develop coöperative associations. . . . They will accomplish all that is sought to be secured by labor leagues, trades unions, and other federations of workmen, and will be free from the objection of even impliedly attempting to take the unauthorized or wrongful control of the property, capital, or time of others.

One result of voluntary coöperation, he thought, would be the development of a spirit of loyalty as a precious asset of the laboring man in any grade, in any field; for no one can do a greater injury to the cause of labor than to take loyalty out of the category of active virtues.

Waste of labor

The great economic waste in labor often engaged his attention, and he found its remedy in education:

Once the great struggle of labor was to supply the necessities of life; now, but a small portion of our people are so engaged. Food, clothing, and shelter are common in our country to every provident person, excepting, of course, in occasional accidental cases. The great demand for labor is to supply what may be termed intellectual wants, to which there is no limit except that of intelligence to conceive. If all the relations and obligations of man were properly understood, it would not be necessary for people to make a burden of labor. The great masses of the toilers are now compelled to perform such an amount of labor as makes life often wearisome. An intelligent system of education would correct this inequality. It would make the humblest laborer's work more valuable, it would increase both the demand and supply for skilled labor, and reduce the number of the non-producing class. It would dignify labor, and ultimately would go far to wipe out the mere distinctions of wealth and ancestry. It would achieve a bloodless revolution and establish a republic of industry, merit, and learning.

To dignify labor

How near to that state we may be, or how far from it, we cannot tell. It seems very far when we contemplate the great standing armies of Europe, where over five millions of men (or about one for every twelve adult males) are marching about with guns on their shoulders to preserve the peace of nations, while hovering near them is an innumerable force of police to preserve the peace of individuals; but when we remember the possibilities of civilization and the power of education, we can foresee a time when these soldiers and policemen shall be changed to useful producing citizens, engaged in lifting the burdens of the people instead of increasing them. And yet, extravagant as are the nations of Europe in standing armies and preparations for war, their extravagance in the waste of labor is still greater. Education, by teaching the intelligent use of machinery, is the only remedy for such waste.

Mr. Stanford further held that higher education should not be limited to the chosen few, as it practically is in Europe — there should be an open

An open road to education

road from kindergarten to university. A friend once having argued that there was already "too much education" and that to increase it further was simply to swell the volume of unrest, he replied as follows:

> I insisted that there cannot be too much education any more than too much health or intelligence. Do you happen to know any man who has been too well educated? Where does he live? What is his address? If you cannot find such a man, you cannot speak of overeducation.

In directing that in the new institution applied science, pure science, and the humanities should be equally fostered, he did not forget that knowledge itself must precede any use made of it, applied science being in a sense a by-product. He further insisted that "machinery is not a mere labor-saving device — but labor-aiding, adding to the value of men by increasing their efficiency."

Concerning the faculty he wrote:

Need of competent teachers

> In order that the president may have the assistance of a competent staff of professors, we have provided that the best talent obtainable shall be procured and that liberal compensation shall always be offered. . . . Ample endowment may have been provided, intelligent management may secure large incomes, students may present themselves in numbers, but in the end the faculty makes or mars a university.

That the institution would in time attract great numbers Stanford took as a matter of course, although he found, in California or elsewhere, few who shared his optimism. But he was never deceived by the cheap test of popularity. For he knew that a few hundred men, well trained, would count for more than as many thousands hurried in droves over a ready-made curriculum. So it was agreed

Success not measured by numbers

that a large registration should never be our goal. And he further made the practical request that not one dollar should be spent in advertising, directly or indirectly.

Equal education for women

That women should be educated as thoroughly as their brothers was an axiom to him; coeducation was thus taken for granted. To quote from the articles of endowment:

> We have provided that the education of the sexes shall be equal — deeming it of special importance that those who are to be mothers of the future generation shall be fitted to mold and direct the infantile mind at its most critical period.

Beauty and fitness were to him vital elements in education; "nothing is unimportant in the life of man." For these reasons he laid special stress on the physical charms of Palo Alto. The day before his death he said:

> I learn every year more and more to love the landscape, and this the poorest man in California can enjoy as well as the richest.

From time to time I jotted down some of his intimate sayings:

Increase of individual efficiency

> If it rained twenty-dollar gold pieces until noon every day, at night there would be some men begging for their suppers.
>
> I would have this institution help to fit men and women for usefulness in life by increasing the individual power of production. There can be no limit to education till we reach the limit to the power of production, the power to use the forces of nature. Every man ought to be taught to live and to work to the best advantage and to have an intelligent idea of the thoughts of the day.
>
> Growth of civilization goes with increase of coöperation.

In this last connection he often referred to a luncheon he had once eaten at Humboldt, Nevada,

an oasis in the desert west of the Great Salt Lake, where for a single meal the resources of many countries had been drawn upon.

I believe no one in California has been made poorer because I have lived in the state.

Value of time

A man on a high salary, or occupying an important place, should not spend his time doing things some one else could be employed to do. A college president or a railroad president should not be a mere clerk. Doing one's own writing is a great waste of time. I want you as president to do nothing which you can turn over to some one else who can do it just as well.

We may always advance toward the infinite.

I have dealt with the man as I knew him best, but before closing this tribute, I should speak of a favorite idea advocated by him in Congress — namely, a plan to make farming values fluid by direct governmental assistance. In his view the Government should furnish loans at a low rate of interest on farming properties. The fact that these would themselves afford ample security for paper money, issued for the special purpose, would, he thought, tend to currency flexibility, not (as was charged) to inflation. He often talked to me about the scheme, going over his argument in detail. He felt that the farmer did not get due consideration from Washington, and that such a measure would be merely a matter of simple justice.

Farm loan project

It met with very little Congressional favor, however, although the violent panics of 1877 and 1893, with the minor ones intervening, indicated a serious lack in our monetary system. And early in the Wilson administration a similar plan was adopted in the form of the Farmers' Loan Act.

In October, 1893, I had occasion to cross the toll bridge over the forks of the American River in Placer County, and then talked with the keeper, who had known Mr. Stanford at Michigan Bluff. His remarks I that day recorded in the following lines:

On the North Fork

(THE KEEPER OF THE TOLLGATE SPEAKS)

Well, yes, I knew him; forty years ago,
Or maybe thirty-five, he lived up here,
Up at the bluff above the old North Fork —
Michigan Bluff, we called it in those days;
He kept a miners' store — a stock in trade
Of odds and ends of all sorts. He was then
A sturdy fellow, full of schemes and plans,
But sticking like a bulldog, once they're made.

He never trusted to a turn of cards;
He spent his money only on his wife
And on his schemes, and somehow day by day
He seemed to cut a little wider swath.
But he was poor and none too proud at that,
For I have seen him with his loaded cart,
Driving along here on the rough red roads
That run through Placer County east and west
From Clipper Gap to Lone Star and beyond,
From Yuba Canyon on to Placerville.

We fellows laughed then at the pains he took
To balance up his books and square accounts.
With us, come easy — and it easy went.
The stream of gold dust from the old North Fork
Flowed in our pockets and flowed out again,
And left them just as empty as before.

But 'twas not so with him, sir. Not a thought
Of cards or wine or woman ever moved
His mind a moment from his purposes;
And everything he touched turned into gold.

So things went with him till one day he shook
The dust of Placer County from his feet,
And from the mountains down to town he went
To work at other, maybe bigger schemes;
And some one at the Bluff bought out his store.

And I grew tired at last of miner's fare,
Worn out with washing gold and waiting luck;
Washing for gold down there at Murderer's Bar,
Waiting for luck away up on Lone Star —
I came down here to where the Forks unite,
To this old bridge, and here for twenty years
I've taken toll from every passer-by.

I wash a little gold out day by day
But mostly watch my river flowing by.
Good friends we are, the old North Fork and I;
I like to hear him 'neath his melting snows,
Calling the little brooks to follow him
As down he goes headforemost to the sea.
I watch the squirrels on the digger pine
Hoarding up stores for days that never come.

I sit and see the seasons come and go,
The white cloak slipping from the mountain tops,
Edged with a fringe of milk-white waterfalls,
That fade away before the thirsty sun, —
When the green foothills change to gray and brown.
But best of all I love October days,
When the blue haze hangs over all the woods,
And the deep slopes flame out in red and gold,
As first the black oaks feel the touch of frost.

I love the live oaks too; they never change,
But stand out dark in sunshine as in storm; —
The only friends I have that do not change.

Even my river here, the old North Fork,
Is not the river that I used to know;
For piles of sand and gravel fill the bars,
Where grass and flowers grew to the water's edge

Back in the '50's when we both were young —
I and the river. Well, it seemed so then.
We both have had too much of mining camps;
No winter rains can wash their stains away.

Oh, yes; he built the railroad through these hills,
For luck stuck to him — he would not let go
When it came to him; that was just his way.
To some men luck comes once and not again,
To some men it comes once and stays with them
Because they never let it go.

They say he left his money to the world
And left the world forever richer for it;
It may be that's his luck — I do not know.
If so, the world is lucky.

There's the stage,
And you must go across to Placerville;
You should have been here thirty years ago
When Horace Greeley rode to Placerville
And Hank Monk held the ribbons.

What! You say
"Old Hank become a chestnut!" Well, goodby.

3

As already stated, it was Stanford's intention and that of his wife to give their whole estate to the University; they had, moreover, arranged that the one to survive should complete the endowment. Because of two tremendous obstacles that purpose was brought about only after six years of most persistent effort. These obstacles were, first, the legal necessity of clearing the estate of all obligations — a process made almost impossible by a sequence of extraordinary complications with which

Defect in enabling act

I am about to deal; and second, a defect in the enabling act of the state legislature on which the endowment grant rested, a flaw which brought the latter into conflict with the Constitution of California.

By the provisions of Stanford's will the University was to receive two and one-half million dollars outright, each known relative (about twenty-five in number) one hundred thousand, his favorite brother, Thomas Welton Stanford of Melbourne, Australia, three hundred thousand, and Mrs. Stanford the remainder of the estate, it being his desire, as I have said, that she should have the privilege of directing and completing their common memorial gift. The payment of debts, amounting in all to about three millions, having legal precedence, legacies and endowment as well had to wait; and even the relatively small sum bequeathed directly to the University was not available for several years. Upon

Welton Stanford

receipt of his portion, however, Welton Stanford immediately turned back half of it to be used in the erection of a library building, the rest being later given for an art gallery and other specific purposes.

Following the death of her husband, Mrs. Stanford remained in close seclusion for two weeks. She had very important decisions to make. The

The panic of 1893

worst panic in America — foreseen, as I have said by Mr. Stanford — was already imminent. All incomes from business had ceased. Beyond a collection of rare jewels presented to her from time to time by her husband she possessed nothing but the community estate; this she could draw upon for personal maintenance only until all obligations

MR. AND MRS. LELAND STANFORD, 1850

were canceled — a matter of at least a year or two perhaps, even if everything went well.

At the end of the fortnight she called me to her home to say that the die was cast. She was going ahead with Leland Stanford Junior University. To that end she would let us have all the money she possibly could; for a time it might not be much — we must get down to bedrock, meanwhile, however, keeping the institution open and doing our level best.

The task was not easy, as a few details out of many will make clear. It had been the founder's announced intention to offer the highest scale of salaries as a means of securing the best available teachers. To a large extent this plan was carried out, the average in each grade having been for the most part higher than in other large institutions generally. But even the amounts due for the first three weeks of the month of June (for which Stanford was personally responsible) could not be paid until the courts ruled by whom and to whom such sums were due. As to continued remuneration, president and professors alike had to be regarded by the Probate Court as Mrs. Stanford's personal servants — the University, as such, having for the time no recognized status.

Professors as personal servants

And for two months no money was available for any purpose whatever. One picturesque incident will illustrate our predicament. Late in August, Probate Judge James B. Coffey sent down to Mrs. Stanford a bag containing the sum of $500 in twenty-dollar gold pieces to meet the immediate needs of her servants. Stating that the household could wait, she told me to divide the money among those

The bag of gold

professors who might be needing it the most. At once I set out, intending to assign $50 apiece to ten persons; but as no one could give change, I was obliged to distribute by forties and sixties!

It chanced, however, that further alleviation was now at hand. Shortly after Mr. Stanford's death, I had procured from the Stock Farm a series of ordinary account blanks on which I noted the amount due each professor, as an "employee," for "services" rendered from June 1, the date of the last payment by our "employer," to June 21, when the estate passed into the hands of the Court. Returning from my rounds with the bag of gold, I was surprised to receive a check for $13,000 which had been sent down by order of the Judge to cover our June claims. Mrs. Stanford then said diffidently that she would be greatly obliged if we would return the gold already distributed, as she could make good use of it.

A monthly allowance

Not long afterward the stress was still further relieved through a provisional arrangement allowed by Judge Coffey as a matter of substantial justice if not of legal precedent. This took the form of a monthly allowance (to Mrs. Stanford) of $12,500 for "service" over and above the necessities of her personal maintenance. But the salary roll alone already amounted to $15,000 a month, and additional teachers had been engaged for the coming year. Plainly an extra source of income had to be found. Tuition up to that time had been entirely free; we were later obliged, though with much reluctance, to charge a yearly registration fee of twenty dollars — thirty to those of irregular standing.

The situation was now again modified by voluntary action on the part of the faculty and president,

whereby for six years each individual waived ten per cent of his salary, thus making a total contribution of about $100,000, which paid for books and apparatus as well as for minor instructors and assistants. At the same time, also, it was understood that no deficit could be incurred at the University, the president being held personally responsible for any debts left unpaid at the end of the academic year. As a further precaution I was obliged virtually to pledge that no refund of unpaid or waived salaries should ever be demanded. Moreover, all payments were made by my personal cheque, as the money came to me at very irregular intervals. *Contribution by professors*

During these unprecedented times all contracts had to be made out by the year, subject to the limitations indicated above, salaries being fixed at specified sums "or as much thereof as can be obtained." But however trying the situation, practically every one accepted it in a fine spirit and without abatement of courage on the part of either teachers or students.

Meanwhile, before Mrs. Stanford could secure any control as trustee, the Vina estate was plunging the University into debt at the rate of nearly $500 a day. Indeed, both Vina and Palo Alto had been conducted by their owner as experiment stations, with no attempt to make money. All these expenditures had to be abruptly terminated, as otherwise they would speedily have wrecked the institution. But herein lay a serious peril. The Vina army of vineyardists, many of them brought over from France, could not be dismissed without pay, and no money was forthcoming. At one time general discontent threatened to lead to the burning *The crisis at Vina*

of the buildings, a calamity averted by the timely discovery of a forgotten, paid-up life-insurance policy,[1] the only insurance of any kind Mr. Stanford ever carried.

Another serious embarrassment arose from the nature of the Stanford holdings; that is, the bulk of the property, a one-fourth interest in the Southern Pacific system, had to be maintained unbroken to insure representation on the board of directors. Divided, smaller parts might be subject to the process of "freezing out," not unknown in railway history; the untoward experience of Johns Hopkins University in connection with the Baltimore and Ohio we accepted as a warning. And during the panic there were no buyers at all.

The "freezing out" process

Many minor incidents of the struggle I must pass by. Wise management and rigid economy were imperative, but Mrs. Stanford proved equal to the new demands. If all else failed, there were the jewels to fall back upon; and she steadily refused to consider the advice (almost unanimous) to close the University, or most of its departments, until some more favorable time. In 1895 she invited the Pioneer Class to a reception at her city home, because, as she told me, it was probably the last class she could ever see graduate. For we still had nothing to run on save the precarious "servant allowance," liable to be cut down at any time. Occasionally we sold some horses, but as our ownership of the animals at the Stock Farm had not yet been legally established, we were not sure whether they were university property or part of the general

Pioneer reception

[1] This was policy No. 1 for $10,000, taken in pure good will at the organization of a new company on the Coast.

estate, though fortunately our assumed right was never contested.

During these difficult days Mrs. Stanford was heartened by the support of certain friends, especially three members of the provisional board of trustees, Judge Francis E. Spencer, Judge Samuel F. Leib, and Timothy Hopkins. No one can tell how much the University owed to the friendly and practical interest of these devoted people. Judge Spencer, Mrs. Stanford's representative on the Southern Pacific board of directors, was particularly alert as to her interests in that connection. Judge Leib, who became president of the provisional board of trustees after Spencer's death, looked after investments and safeguarded the properties from outside attack. Mr. Hopkins (who had already equipped our Marine Station at Pacific Grove) gave special attention to immediate needs, buying books and apparatus without taking receipts or asking returns. From across the sea, also, Welton Stanford extended his warm sympathy, concretely expressed in the gift of a Library Building and various works of art.

Stanch supporters

4

During the course of 1893, adjustments being well under way, we had at last begun to see daylight, when the institution received a staggering blow from an entirely unexpected quarter. Near the end of the year the United States, in the name of the Attorney General, brought suit of the nature of an injunction to prevent distribution of the Stanford estate until $15,000,000, Stanford's share of the

A staggering blow

debt of $27,000,000 (now risen to $60,000,000 from accumulation of interest) originally borrowed from the Government by the Central Pacific Railway Company, should mature and be paid. This was a peculiarly arbitrary proceeding, as these notes were not due for a number of years — the first in 1895, the last in 1899. Concerning the whole matter there was much misunderstanding as well as wanton misrepresentation.[1] The essential facts, easily verified, I may here present in some detail.

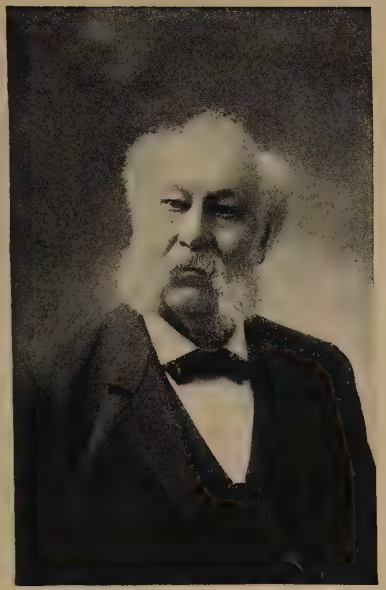
Government aid to Central Pacific

In the construction of the Central Pacific Railway, the four builders exhausted their funds and their personal credit, even with the large conditional grants of government land along the line — holdings which were, of course, worthless unless the road could be put through.[2] The United States Government then came to their further aid with the loan mentioned above, for which it took a second mortgage on the property, although the first mortgage, held in private hands, was generally thought

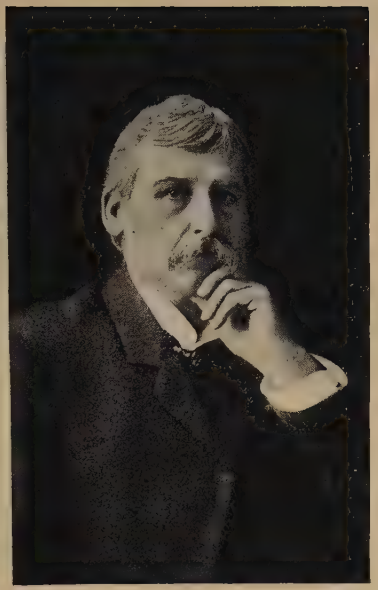
[1] Most of the then current accusations against the Southern Pacific Company in its relations to the Government were based on the assumption that the loan would never be paid; it was, however, paid in full, with interest, on the days it became due.

It is not necessary here for me to defend or criticize the conduct of the Southern Pacific Company in acquiring political domination in the state. That is a matter in which I had no part; and while the relation of local officials with the University was most cordial, the Stanford interests were more or less divergent from those of the other partners. It was asserted on the one hand that "the railway controlled the press of the state through judicious advertising, disarmed opposing attorneys through fees, and managed the legislature through a political agent whose duty it was to prevent the election of an unfriendly majority." On the other hand it was claimed that "without such arrangements, the integrity of the railway properties could not be secured against 'cinch bills' and blackmailing attacks, the latter often in the guise of reform. When the danger from such sources abated, the railway went out of politics."

[2] It should also be noted that with the exception of the Humboldt and Truckee valleys, timbered areas in the Sierras, and fruit lands in the foothills, most of these tracts are still valueless.



FRANCIS E. SPENCER



SAMUEL FRANKLIN LEIB

TIMOTHY HOPKINS

practically to cover its minimum value. Nevertheless, at Washington the pressing need of transcontinental connection had seemed to justify the risk. As to the wisdom of the loan there was later much difference of opinion, accentuated by Huntington's own cynical remark (for personal purposes) that "the Central Pacific was two streaks of rust and a right of way." On the other hand, high authorities in railway matters urged that as it was the most direct route possible to the Coast it would surely have a permanent and steadily rising value over and above all indebtedness. But in bringing suit the Government officials assumed the second mortgage to be valueless.

Two valuations

By a statute of California, each original stockholder in a delinquent corporation is individually liable for his share of its indebtedness, provided that suit is begun within three years after organization.[1] That period had long since lapsed, but in the official brief it was claimed that statutes of limitation do not hold against the Government. The question of liability had not been raised in connection with the earlier distributions of the Crocker and Hopkins estates. Huntington was still living, and therefore could not be attacked. Some have suggested that it was for the latter's interest to have the matter tested at the expense of the Stanford estate, a proceeding in which the sympathy of California was sure to be enlisted on the side of the University and its surviving founder. Meanwhile the fact that the two other owners of the Southern Pacific system, the Crocker and Searles (formerly Hopkins)

No help from partners

[1] The purpose of this statute was to discourage "wildcat" enterprises, as the phrase then went.

interests, also declined to assist in any way added enormously to our difficulties. All of them, more especially Mr. Huntington, were financially concerned in the outcome, though they left Mrs. Stanford to make the fight alone.

But to attempt to analyze here the various motives, political or personal, behind the legal attack is not a part of my purpose. Fortunately it now makes no difference what they were, and the matter may well pass into oblivion. In justice, also, it should be said that none of the present owners or managers (1921) of the Southern Pacific were in any way concerned in the matter, for entire ownership and control passed into new hands at the end of the century. Again it is only fair to note that the attitude of which I complain was the usual business point of view. For it seemed impossible to save all three — railway, estate, and university — in those years of panic. Current railroad receipts (there were no profits) were apparently required to continue operations, and expenditures for the University naturally seemed wasteful and dangerous to the other owners. According to Huntington, the way out was to "stop the circus." In Mrs. Stanford's mind, however, the estate existed solely for the benefit of the institution founded in memory of her son. To save the property on the terms suggested seemed to her like throwing over the passengers to lighten the ship. And as matters turned out, university, estate, and railway were all saved alike.

"Stopping the circus"

Leading jurists consulted by Mrs. Stanford agreed that the Government had no case. Briefly the plea asserted that nothing was yet due the United States,

nor was there any reason to suppose that any part of the loan, when due, would remain unpaid. Moreover, the limitation of three years, being an integral part of the statute in question, would hold against the Government as against other creditors. Furthermore, the money borrowed was not a debt incurred in corporation business.

Favorable decisions

The great suit was brought to trial in the United States District Court of San Francisco, the University being represented by Judge John Garber, then leader of the California Bar. The decision of the Court, written by Judge Erskine K. Ross, was in our favor. The case was then appealed to the Superior Court, composed of Judges William W. Morrow, William B. Gilbert, and Thomas Hawley; their decision, prepared by Judge Morrow, was also in our favor. The Government's representative next appealed to the Supreme Court at Washington. Our situation was now most critical. Funds were scanty as well as precarious, and the Supreme Court being far in arrears, it seemed hopeless to expect an early decision. Any considerable delay, however, would involve our ruin.

Appeal to Supreme Court

At this point Mrs. Stanford, disregarding legal advice, acted on her womanly initiative. Going directly to Washington, she laid the case before Mr. Cleveland, explaining that it was a matter of life and death to the University and beseeching him to use his influence toward bringing the case to a speedy trial. After considerable natural hesitation, the President saw his way to comply, and at his request Chief Justice Melville B. Fuller assigned an advanced date for our hearing. Before the Supreme Court we were represented by Joseph Choate, then

Cleveland's intervention

the foremost legal advocate in America, who relied largely on Judge Garber's brief in developing his argument. And on March 2, 1896, the Government injunction against distribution of the Stanford estate was finally thrown out of court by a unanimous decision written by Justice John Marshall Harlan. His exhaustive review closed as follows:

Harlan's decision

> Throughout the whole of the Act referred to is the manifested purpose that the California corporation, and the other State corporations named, should enjoy the rights, immunities, benefits, and privileges given to them upon the same terms and conditions as were prescribed for the Union Pacific Railroad Company. . . . The relations between the California corporation and State were of no concern to the National Government at the time the purpose was formed to establish a great highway across the continent for governmental and public use. Congress chose this existing, artificial being as instrumental to accomplish national ends, and the relations between the United States and that corporation ought to be determined by the enactments which established those relations; and, if those enactments do not expressly, nor by implication, subject the stockholders to liability for its debts, it is to be presumed that Congress intended to waive its right to impose such liability. Judgment is therefore affirmed.

5

Obstacle of debt

Thus was surmounted the greatest though by no means the last obstacle in Stanford University's first decade, for the general estate still remained heavily encumbered. Five and one-half millions of dollars were due to banks and outside legatees, but the process of settlement was hopelessly slow, there being no demand whatever for landed properties, of which there were many pieces scattered through California. It is true that our share (one

fourth) in the street railway system of San Francisco readily brought about one million and a half; but the highest offer before 1898 for the whole of the Stanford holdings in the Southern Pacific was only about five millions. Indeed, the Probate Court's official inventory (1893) of the entire estate estimated its current worth as about seventeen millions only. And in spite of great ultimate value, at forced sale many fine pieces of property (ranches especially) would have then brought next to nothing.

Mrs. Stanford's anxiety

Still more distressing was Mrs. Stanford's constant anxiety lest she might not live long enough to free the estate and thus bring it into her own hands — a condition precedent to deeding it to the University. Moreover, the technical discrepancy in the Enabling Act left the original board of trustees impotent to receive endowments. For this embarrassment the only solution lay in an amendment to the erratic state constitution [1] which should recognize Stanford by name as a quasi-public institution, capable of receiving donations for educational purposes — an achievement effected in the fall of 1900 through a remarkable series of efforts.

Putting Stanford into the California constitution

Anticipating the referendum, George E. Crothers, a "Pioneer," prepared the amendment and, assisted by Francis V. Keisling, '98, took charge of the statewide campaign, enlisting the services of Stanford men and women by whom the necessity for the change was explained in almost every district. As a result the proposition was carried by the highest majority ever received here; by that time, at least,

[1] Admirably described by Bryce in "The American Commonwealth" (Chapter xc) but since modified by the addition of upward of a hundred amendments.

the University had come to be fully recognized as belonging to "the children of California."

In the amendment partial relief from very burdensome state taxation was also provided, the legislature being authorized to exempt the university buildings and all personal property outside of real estate. As to the latter limitation, it was necessary as a concession to Tehama and Butte counties, in which the institution held 76,000 acres of farm land.

A valuable burden

Mrs. Stanford meanwhile made many and various attempts to dispose of property and cancel obligations. In the summer of 1897 she went to the Queen's Jubilee, carrying in a suitcase[1] jewels worth nearly half a million, which she hoped to sell advantageously because the social leaders of the world would then be gathered in London. But finding no adequate market, she was obliged to bring back the bulk of the collection.

The Jewel Fund

While upon the subject, I may as well explain the final disposition of this romantic asset. In 1905, only a week before her death, Mrs. Stanford turned the collection over to the permanent board of trustees — already functioning — with instructions to sell it, the proceeds "to be known and designated as the Jewel Fund," the earnings to be used solely for the purchase of books. In 1908 the sale was finally made, thus establishing a fund of $500,000, yielding a guaranteed yearly income of $25,000.

During the continuance of our difficult situation

[1] It was simply to save the large cost of transportation with insurance that Mrs. Stanford and Miss Berner took upon themselves the delicate responsibility of personally caring for the treasure. Knowing their determination, I asked Professor Kellogg, then about to leave for Leipzig, to go by the same boat and act as special guardian on the way over. This rôle he generously accepted, much to Mrs. Stanford's relief.

we tried various methods of attaining security. Mrs. Stanford made a will in which, after a few individual gifts, the entire remaining estate was left to the University as residuary legatee. But that document also conflicted with a statute of California under which not more than one third of an estate can be left "by will and testament to charity," this being a provision early devised to prevent death bed deeds to the Church.

Efforts to legalize a last will and testament

The state legislature was accordingly asked in 1901 to modify the statute in the University's interest; our request was met by the passage of an amendment excluding one special form of "charity" — namely, the endowment of non-sectarian institutions of higher education. The bill was vetoed by Governor James H. Budd, however, and for reasons which I must admit were valid. To legislate against sectarianism is to discriminate in matters of religion—a policy foreign to American traditions. My own feeling, as then expressed, was that if Stanford were specially relieved, we should help all collegiate institutions, whether denominational or not, to secure similar exemption.

At this point the uncertainties surrounding a last will and testament were strongly borne in on us. In California the sanctity of such documents has not always been respected. I had therefore asked the opinion of a legal friend, Mr. E. L. Campbell, as to the possibility of a testator making a disposal of property prospective but not yet in his hands. Replying, he warned me against placing any trust whatever in testamentary acts. This advice, cold and impersonal, was a blow to Mrs. Stanford's hopes, but it stirred her to redoubled effort.

A cold opinion

On my own initiative I then ventured to draw up a document constituting a special trust group to whom was assigned all right and title in any properties coming to Mrs. Stanford as her husband's residuary legatee; signed and recognized as legally valid, it would leave practically nothing in her name at the moment of death. As members of the proposed trust I chose three of her most loyal and substantial friends. These men were in no way consulted, and so far as I know have never learned of the confidence involved. Each night for nearly two years Mrs. Stanford placed the document on a table at her bedside, where it could be signed in case of sudden illness. Fortunately, that emergency never arose. Whether or not the paper would have been valid in law I do not know, but it would certainly have made a powerful appeal to the public sentiment of California.

Forlorn hope

During all those years of struggle, Mrs. Stanford's personal economies were many and severe, every avoidable outlay of whatever kind being rigidly eliminated. In June, 1896, as I was about to leave for Bering Sea on a government commission, she asked if I did not think she could again afford a housekeeper, now that our affairs were looking so much better. For three years her establishment had been served by two domestics only — a Chinese cook and an aged butler of other days.

Rigid economies

Somewhat earlier, having gone to Washington to close and settle up the affairs of the residence occupied by her husband and herself during his period as Senator, she chose to live in a private car to which (as partner in the Southern Pacific) she was entitled, instead of going to an expensive hotel. Of

the sum of $400 urged upon her when she left California by her brother, Charles G. Lathrop — then university treasurer — she brought back $340, which she at once turned over to me toward payment of delayed salaries.

In 1899 came sudden relief through the sale of her Southern Pacific holdings for about sixteen millions to Speyer & Co.[1] of New York and Frankfort. This transaction freed the estate from debt, and the board of trustees having been at last legalized, Mrs. Stanford deeded to it piece after piece of property as it came into her hands. In the end she also made a "blanket deed" of nearly everything she possessed, amounting in value to upward of twenty-five millions, but retaining about three millions "to play with," as she said. Nevertheless, most of that sum she put into additional university buildings. The numerous duplications involved in the "blanket" were intended to guard against possible flaws in individual deeds.

Blanket deeds

The endowment of the University had now been effected with unflinching adherence to the original plan, and in spite of difficulties unprecedented and seemingly insurmountable. The experience had of course a certain value in checking waste. It meant, however, a trying period of hope deferred; and unfortunately not all of those who stood by through the "dark ages" remained to share the better times

Unflinching devotion

[1] Mr. James Speyer had previously given Mrs. Stanford the excellent advice not to sell at prices then offered, as the future value of the Central Pacific would necessarily be very great. He further assured her that when she felt she must sell he would pay a million more than any other bidder — a promise which he faithfully kept.

The properties in question, I may add, were soon transferred by the Speyers to Kuhn, Loeb & Co., and placed under the direction of the master-manager, Edward H. Harriman.

which followed.[1] But Mrs. Stanford's singleness of purpose was well expressed in a letter she wrote to me on September 3, 1898:

A sacred trust

Every dollar I can rightfully call mine is sacredly laid on the altar of my love for the University, and thus it ever shall be.[2]

I shall now turn back and resume my story from another side.

NOTE

According to the Albanian proverb, "Open a cask of sugar and the flies will come all the way from Bagdad." The settlement of a great estate has somewhat the same effect. Many spurious claims were presented, and the attorney was obliged to fight them all to avoid a deluge. One well-known newspaper man put in a claim for $2500 for advertising — to wit, he had printed an account of the opening exercises.

The demoralizing effects of unearned legacies were often apparent, a few of the remotely related legatees having spent their share in advance, and then blamed "Uncle Leland" for his "stinginess" and wasting of money on a superfluous university.

Among the assets were scores of notes of politicians and associates who had borrowed from Stanford. Some were duly paid; many, however, could not be collected.

[1] Even so, during my administration, notwithstanding a large increase in funds after 1900, there was never at any time anything like all the money we urgently needed.

[2] For further extracts from personal letters of Mrs. Stanford see Appendix C (page 691).

CHAPTER TWENTY-ONE

I

In July, 1893, Mrs. Stanford having made her decision as to the University, it was thought best for me to keep an engagement of several months' standing to serve as one of the judges of the educational exhibits in the great Columbian Exposition, popularly known as the "World's Fair." During my stay in Chicago I was the guest of my sister, Mrs. Edwards, whose husband had charge of the Exposition Bank.

Need of a new residence

Returning to California, I was at once faced by the staggering administrative complications which I have just attempted to make clear. At the same time a minor crisis confronted my household, as it seemed impossible for us to spend another winter in Escondite. Indeed, some months before, Mr. Stanford had ordered plans prepared for a commodious stone residence to be rented to me as president,[1] and a builder's contract was placed in his hands the afternoon before his death. But it will be readily understood that the University was then in no position to supply the necessary funds. I was therefore compelled to build for myself hastily and under unforeseen conditions. The new house (which we began to occupy early in 1894) was naturally much more modest than the one originally contemplated and entirely inadequate also for a perma-

[1] From the beginning it was understood that there would be no perquisites for any one connected with the University, it being the founder's desire to pay ample and definite salaries.

nent official residence; but as things turned out, we ourselves never felt like making large additions, and academic needs seemed always to forbid our asking the University to provide a suitable home, even with the rental placed on a business basis.

At Mrs. Stanford's request we retained the site indicated by her husband, northwest of the original Roble Hall, apart from the other homes and encircled by a dozen superb live oaks. These trees, among the finest in the state, were preserved by a former occupant, Jerry Easton, whose abode had stood in their midst. One of them is of remarkable interest, being probably the largest and most perfect "woodpecker tree" now in existence, and bored full of acorn holes from top to bottom by the California red-headed woodpecker — *Melanerpes formicivorus.* This bird, otherwise much like its Eastern cousin, has the unique habit of thus storing in the fall the long, slender live-oak nuts against the days of need during the dry season of California.

The "woodpecker tree"

About the house we planted a great variety of trees and shrubs which ultimately grew into a crowded, incongruous, but delightful jungle. I resist my botanical impulse to name them all, notwithstanding the fact that their appellations are as honey on my lips and that nearly every quarter of the globe, equator and poles excepted, has its representative. Among them the Australian "bottle brush tree" — *Callistemon* — the Minnesota crab-apple, and the Japanese cherry stand first in my affections. From Christmas, at which time our spring begins, until June, when the fields turn yellow, the thicket is joyous with bloom. In the fall the flame-thorn — *Pyracantha* — with its orange

THE GARDEN, 1898

THE "WOODPECKER TREE"

berries tempts the golden-crowned sparrows to earlier and earlier visits, so that of late they leave not a bite for the robins who come in January, and who formerly regarded the thorns as their sole preserve.

The orchard

Roses, of course, we have in abundance, with two beautiful climbers which cover the whole front of the house; and around the garden extends a little orchard with a variety of fruit trees, set off here and there by several sturdy plants of the "Barbary Fig"[1] brought directly from Morocco, beside hybrids from Luther Burbank's wonderful nurseries at Santa Rosa.

Our friends the quails

The garden we cheerfully share with certain other folk who seem to think it theirs. A large covey of quail surely have prior right, being "original settlers" already long established when we arrived. Finding us friendly, they decided to remain, roosting at night in the big trees, wandering around at will by day, a little shy to be sure, but confident nevertheless of our good intentions. And a beautiful sight it is to see the whole unit, young and old, briskly deploy across the open driveway and dart to shelter in the other covert. If, however, the house is quiet, they calmly take possession of the place. Of mornings, the male with tossing plume perches on limb or post, calling out (at least, so it comes to my ear) "*Thirty-two, thirty-two.*" But, as a matter of fact, the real count of the covey runs about forty.

Other birds keep house with us — the fine sickle-bill or Western thrasher, a relative of the mocking

[1] *Opuntia ficus-indica*, a cactus with agreeable fruit, although like every other species of cactus a native of arid America, has long been cultivated about the Mediterranean. The "Barbary Fig" forms the parent stock from which Burbank has developed numbers of interesting and valuable variants with red, white, green, and yellow fruit.

Other feathered tenants

bird and almost as sweet a singer; many linnets, the male crimson-washed and with exquisitely sweet voice, as well as an inordinate taste for cherries; the little house wren; two dainty species of humming birds; and the California jay with wonderful sky-blue coat, but dreaded and detested by all his smaller neighbors because of his evil temper. Outside in the great field lives the Western meadow lark with thrush-like notes, quite unlike the incomplete and querulous call of his Eastern cousin. Mounted on a fence post, oblivious of the kindly passer-by, hour after hour he lifts his ringing carol to the day.

Some monkey folk

In addition to our native neighbors, for many years I harbored certain interesting aliens for purposes of study. These were monkeys and parrots, for which the climate of California is fairly well adapted. Bob was the first and cleverest of my monkey people — that is, we called him Bob. His real name we never knew; it was lost in the jungles of Borneo. But as I long ago told his story [1] for naturalists and for children, it need not be repeated here. Concerning the others of his kin who came after, a few words will suffice.

One little ailing *Cercopithecus*, a member of Bob's tribe, was given the run of the warm furnace room, which he shared with two kittens. Of these he became very fond, often sitting with an arm around each until they grew too big for him. And when his food was brought, he always carefully laid before them some delectable morsel such as a cold potato or a raw carrot! These they finally came to accept

[1] "The Story of Bob"; *The American Naturalist*, 1892. Reprinted in "The Book of Knight and Barbara."

— though not enthusiastically — while he in turn learned to lap up milk cat-fashion.

All of my simian wards were human in their longing for companionship. One big female grabbed a passing kitten and made off with it to the top of the barn. From that point of vantage she was dislodged with difficulty after an hour or so, during which she hugged the whimpering little beast to her monkey heart. At another time she adopted a young motherless chick, and as night came on would carefully lift and place it out of reach behind her in a snug corner of the old dog house where she slept. At sharing her food, however, she drew the line — gently but firmly removing her charge to a satisfactory distance at dinner time. *Maternal yearnings*

Still another, a male who maintained a more or less mutually aggressive relation with our Great Dane dog, would when attached to the latter's collar by a chain ride around contentedly on his back. This amusement ended in a near-tragedy, for one day when the carriage left in haste to meet a train, the dog went, too; so perforce did the rider, but not keeping his hold. We understood afterward that the scene was lamentable, but only at the station was the situation uncovered to the coachman, who brought the monkey back on the front seat, considerably the worse for wear, his eyes eloquent with reproach. *A simian Mazeppa*

Of the parrots our special joy was "Loro Bonito," a yellowhead, from Mazatlan. When first presented to my wife, he was able to imitate with a good deal of exactness the fife and drum of his home *presidio*. This accomplishment he soon lost, however, and with it ultimately all his Spanish; but he mean- *Loro Bonito*

while picked up a good deal of English. From an Irish maid he learned to sing with strong Hibernian accent:

> I'm called Little Buttercup, sweet Little Buttercup,
> Though I could never tell whoy!

A difficult accomplishment

At the "Stanford yell" of those days, with its eight "rahs," he worked hard, but for a long time without arithmetical precision. One day, however, when the University was rejoicing at the lifting of a great cloud, he listened intently to the reiterated student shout, the old

> Rah, rah, rah,
> Rah, rah, rah,
> Rah, rah,
> Stanford!

and from then on kept the count perfectly. Sitting in the sunshine at the end of a great oak limb, he took special joy in shrieking out the staccato lines again and again.

Coloratura duets

One Guatemala parrot with a green head never learned to speak but was greatly interested in music. Left alone in the room with the graphophone playing *coloratura* selections, he would strike the key and keep up a creditable running accompaniment of his own. Occasionally losing the note, he would then break out into a most discordant squawk, with which in fact he generally closed his performance. Another bird of the same species (owned by a little girl from Guatemala) would solemnly repeat long Latin responses from the Mass, winding up gayly with "*Vamos a los toros.*" [1]

To the garden recently came two new tenants

[1] "Let's go to the bullfight."

less exotic than the monkey and the parrot, but by no means indigenous to California. The one, the Bayou Gray Squirrel — *Sciurus fuliginosus* — seems like all his brethren to need an audience, and watches the spectator as though craving admiration. Between him and the cats there rages a perpetual feud; the woodpeckers also on their intermittent returns feel outraged by his raid upon their storehouse in the big oak, and scold vociferously over his intrusion. *Furry invaders*

The Silver Squirrel of California — *Sciurus douglasi* — the largest and handsomest of our members of the tribe, is a shy animal, unfortunately, and never leaves his haunts in the upland forests. Our new friend belongs no doubt to the overflow from Golden Gate Park in San Francisco, where his sociable species has been acclimated and whence it is now making its way down the Peninsula.[1]

The other newcomer, the Opossum, is a beast of very different disposition, sullen in temper and skulking about by night, as he has no love for man and no human trait beyond a taste for chickens. Man in return finds him good only when properly roasted, "Maryland style"; under these circumstances he has much the flavor of a sucking pig. Native throughout the Southern states, this interesting creature is finding for himself a congenial home in our region, to which some one has purposely brought him with an eye to future "possum roasts."

[1] With all forms of this type, as well as some others in America, certain individuals are melanistic glossy black throughout, and exceedingly handsome. Our first squirrel visitors were all black.

2

In the course of the summer of 1894 we made a delightful trip by carriage from Ukiah in Mendocino County to Eureka in Humboldt, where I gave two or three lectures. At Vichy Springs above Ukiah, a resort standing in a class by itself, we stopped for a night, principally for a delicious "Apollinaris" bath in its hot carbonated water. On this run we happily had with us Dr. Thoburn, a keen-eyed naturalist as well as warm-hearted moralist. The long drive through giant forests of undisturbed redwoods was especially impressive. Unluckily much of that magnificent timber has been cut away, and a "Save the Redwoods" movement is becoming a vital issue in northern California.

Save the Redwoods

In our section of the state we have been more fortunate. The grove near Felton, already described, has long been protected as a forest resort. And in 1902 it was my privilege to help Governor Henry T. Gage decide in favor of a bill authorizing the purchase, as a state park, of the Big Basin, a superb redwood forest at the head of Boulder Creek in Santa Cruz County, an area covering about 3800 acres of undisturbed woodland. On the enthusiastic initiation of the Sempervirens Club, including such active beauty lovers as Father Kenna, president of Santa Clara College, Andrew P. Hill of San José, Josephine McCracken of Santa Cruz, and Professor Dudley, the bill in question had been duly introduced and passed by the state legislature. Yet the governor hesitated. Another meritorious forestry measure, providing for certain investigations, also awaited

The Big Basin statute

his signature. Meanwhile the condition of the state treasury was such that he felt obliged to make a choice between the two. Having been called in to give my advice, I suggested that the investigations could wait; while, on the other hand, any delay in connection with the proposed forest might be fatal. My argument won the day; the Big Basin was accordingly purchased, officially rechristened as the California Redwood Park, and later enlarged to 10,000 acres or about fifteen square miles under the supervision of Charles B. Wing,[1] the leading worker. That term I use with deliberation, for besides the time and labor necessarily involved in general administration, the professor must periodically marshal his volunteer student clans, and rush over to fight the disastrous fires which each fall menace his beautiful forest.

California Redwood Park

From 1904 to 1908 it was my pleasure to assist an ardent mountain lover, Mr. S. C. Hain of Tres Pinos, in securing for the people as a Government Forest Reserve a singular district known as the "Pinnacles," lying in the Gavilan Range on the line between San Benito and Monterey counties. There the mountain ridge of yellow Miocene sandstone has been scored into deep gulches worn by the long action of small streams unaided by frost or ice. These cuts are very narrow and irregular, scarcely widened even at the top, and the cliffs assume varied fantastic and picturesque forms. The forests are of little consequence, being of scant oaks and digger pines; but many rare flowers are found in the tract, and some of the precipitous walls bear nests of the great California condor — *Gymnogyps*

The Pinnacles Reserve

[1] See also Chapter XVIII, page 442.

— a majestic vulture with wing spread of from nine to ten feet.

Lake Tahoe

During the summer of 1894 we had another fine outing which took us to Lake Tahoe, the scene of some of my fishing in 1880. This magnificent body of water, very deep, very clear, and very cold, about twenty-five miles long by twelve wide, is the jewel of the Sierra. Our first stop was at Emerald Bay, an exquisite inlet below a pretty waterfall; our next at Glen Alpine Springs, higher up in the range, above the beautiful pine-embowered Fallen Leaf Lake, a deep basin walled in strikingly by high glacial moraines. Glen Alpine itself is a rugged, rock-bound valley with a fine carbonated spring. From there we climbed Mount Tallac, which rises as a frost-bitten precipice on the side toward Tahoe, but offers a long, even slope behind. Its summit commands superb and unusual views — on the one hand the broad blue expanse of the great lake far below, on the other Desolation Valley, most appropriately named, an amazing wilderness of bare "slicken" granite, nobly crowned by Pyramid Peak; and in the green intervening area a score of small, sparkling, sapphire-colored tarns. Of these, Heather Lake — the highest and most picturesque — lies near timber line.

Desolation Valley and Heather Lake

One day Mrs. Jordan (on horseback) and I (on foot) made the circuit of the glen, taking a wide détour around on the southern ridge over to Desolation, then along and beyond the head of Heather, returning to the springs by the ragged north wall, at that time well-nigh inaccessible for horses. This was one of the most trying trips I have ever undertaken, and the pony, mountain-bred though he was,

clearly expressed his resolve never to be caught that way again.

At the inn one evening I was trying to explain to some acquaintances the geological origin of the glacial lakes around. But Tahoe did not well fit into my story, in the course of which a vigorous, roughly dressed young fellow, just in from a hard pull over the Divide, took a seat at the dining table. After a little he modestly explained that the ancient and deep valley of the Truckee River now holding the great lake was at some time blocked at its outlet by a long dyke of lava which formed a permanent dam near Tahoe City. The polite and intelligent frontiersman I soon found to be Waldemar Lindgren of the United States Geological Survey, one of the highest authorities on economic geology. Later he became an acting professor on our own staff at Stanford.

The Tahoe dyke

The superb mountain region southwest of Tahoe is not so well known as it deserves to be, although in these days the automobile has penetrated to many a California fastness. But one stretch of road can scarcely have been made available for motorists even now. This leads from Rubicon Springs (at the head of Rubicon River, a branch of the Middle Fork of the American) almost perpendicularly up and over the bare slicken granite of the Rockbound Range, a continuation of Desolation Valley. As a matter of fact, the approach to the Rubicon from McKinney's on the Lake over the narrow and bony Continental Divide must still daunt the chauffeur. But the way up Rockbound — I ought not to call it a road — is or was the most

Up and over Rockbound

difficult in my highly varied experience with mountain vehicles.

At Truckee I had secured an old stagecoach and two very strong horses. Besides Mrs. Jordan and myself the party consisted of four young student friends: Miss Bonnie Burckhalter, now Mrs. F. A. Fletcher; Miss Milnora Roberts; her brother, Milnor Roberts, now dean of the School of Mines in the University of Washington; and Dennis Searles, a favorite among the "Pioneers," lately deceased.

Circuit of Lake Tahoe

Rubicon Springs, a fine carbonated fountain, lies in a beautiful, deep, upland dale overshadowed by the barren mass of Rockbound. Over the wall is Wentworth's, a similar spring, in the edge of a pine woods. From there a run of two or three days through the great forest behind Pyramid Peak brought us to the long slope leading down to Strawberry Valley on the South Fork of the American River in Eldorado County. Thence, by a good road, we crossed the low divide to the Upper Truckee, which we then followed down to the lake.

Of the many long excursions off the beaten track which Mrs. Jordan and I enjoyed before the automobile came into general use, this was one of the finest. But as my wife is passionately fond of out-of-doors and I myself find the greatest relaxation "on the road," I often arranged picturesque driving trips, long or short, frequently in connection with lecturing or other business about the state; usually — and always for the longer jaunts — we induced a few like-minded friends to accompany us. In this way we went through Lake County two or three times, making on one occasion a "sentimental journey" to Silverado, from which Stevenson wrote

so delightfully in the "Silverado Squatters." It was at that time, also, I think, that we spent a night at the beautiful Clear Lake home of Captain and Mrs. Collier, whose daughter Sarah entered Stanford with the Pioneer Class.

The Bret Harte country

Another charming trip took us from Valley Spring to the Calaveras Big Trees, the earliest known of all the Sequoia groves and very impressive, thence through the classical Bret Harte country to the lava-smothered *mesa* of Table Mountain, the home of "Truthful James," and to Angel's Camp, the seat of the Geological "Society upon the Stanislow" and the abode of "the Bell-Ringer of Angel's." At the Calaveras Big Trees we found their owner, Job Whiteside, hoping to induce the Federal Government to meet his price for the property. In that case another noble and irreplaceable forest would be permanently preserved for the people — a matter in which the Sierra Club, an active group of nature lovers and mountaineers, and the Native Daughters of the Golden West have exerted themselves, but so far without avail. Several years later, accompanied by Professor and Mrs. Edward C. Franklin, delightful associates, we renewed acquaintance with the Calaveras Grove, and then drove up the fine gorge of the North Fork of the Stanislaus, tracing the stream practically to its very source in Alpine County.

Plumas County

Again, companioned by my daughter Edith, Milnor Roberts, Vernon Kellogg, and, for a couple of days, young Copeland, son of my old friend, we drove from Chico up the fine Feather River Canyon into Plumas County as far as Quincy and back. On this trip we climbed Lassen's Butte, 10,020 feet, a

Lassen's Butte

volcano with a small crater at the summit, still hot and erupting at times. Though previously quiescent for half a century, Mount Lassen has again become intermittently violent, several considerable outbreaks having taken place within the last decade. Some fifty years ago an overflow of lava down the east side blocked a stream and formed a small lake in the forest. Out of it the smothered trees still rise gaunt and naked from the water. Below the Butte on the south side, a small geyser basin, locally known as "Bumpus' Hell," has been produced by the contact of underground streams with hot rocks. Near by is Vinegar Lake, a large, very sour pond impregnated with sulphurous acid.

3

An inclusive memoir on American fishes

During the whole of 1894, as well as in the four preceding years, I gave all my available time — that is, all not demanded by the University or by outside lectures — to the most extensive and the most trying of my scientific writings, "The Fishes of North and Middle America." [1] This work I had begun in 1889 in Bloomington, at Dr. Goode's

[1] DEDICATED TO THE MEMORY
OF
THOSE ICHTHYOLOGISTS OF THE PAST
WHO HAVE STUDIED
AMERICAN FISHES IN AMERICA
IN TOKEN OF
"THE ONLY REWARD THEY ASKED —
A GRATEFUL REMEMBRANCE OF THEIR WORK"

Here followed a list of fifty-one pioneer naturalists. "Middle" instead of "Central" America was adopted as a more logical term, at the request of Dr. Goode. The same phraseology was also used by Ridgway for his corresponding treatise on birds.

urgent insistence. It involved great strain upon my far-sighted eyes, already fatigued by earlier work and naturally becoming more presbyopic with age.

Moreover, I had only recently begun to wear glasses which I should have put on some years before, for it was not until about that time that Dr. George M. Gould's persistent warnings in regard to eyestrains first came to my attention. I was then particularly impressed by his account of the physical disabilities of many scientific workers (notably of Darwin and Huxley) arising from lack of ocular adjustments.

Seeing little prospect of completing the task, I reluctantly proposed to publish merely the first half of Volume I, that is, the soft-rayed fishes up to and including the sea-horses. But Mr. Hopkins now came to my assistance, furnishing means by which I could enlist the aid of Dr. Evermann as joint author. At the same time, Frank Cramer, an able graduate student, generously volunteered his services, as did also Thoburn and Meek. The work appeared in four volumes, the first in March, 1896, the second and third in 1898, the fourth in 1900. In it we gave descriptions of all the fishes known in America north of the Isthmus — 3127 species, arranged in 1077 genera and 224 families.

Good helpers

Meanwhile, during the two years and more of the Government Suit, I gave lectures on educational subjects in all the principal towns of the state, largely with the view of making as many new friends as possible for the University, against the critical time approaching. One of my most successful courses was that given in San Francisco on "The Factors of Organic Evolution." These I set forth in

University extension

"The Physical Basis of Heredity"

plain and intelligible fashion without effort at argument or propaganda. My address on "The Physical Basis of Heredity" developed a point of view almost unknown even to those of my hearers who had tried to keep up with current discoveries. Its chief quality, highly praised at the time, lay in bringing abstruse conceptions into line with the common knowledge of educated people.

Collecting at Mazatlan

At the close of 1894, for the first time since our arrival at Stanford, I found opportunity to resume field work in Zoölogy. In December my wife and I went on an expedition to Mazatlan, the port of the state of Sinaloa on the west coast of Mexico, almost directly opposite the tip of Lower California. Two assistants, George B. Culver and Edwin C. Starks, accompanied us, as well as five other students, Thomas M. Williams, Frank H. Lamb, Norman B. Scofield, James A. Richardson, and George L. Seward, all volunteer helpers. This trip, the scientific side of which was financed by the further bounty of Timothy Hopkins, resulted in large and valuable collections, including much that was new to science; and under the title, "The Fishes of Sinaloa," I published a description of all the material obtained. In connection with this and later expeditions of the same kind carried on under the auspices of the Hopkins Marine Station, a series of specimens was each time sold to the British Museum and the Museum of Vienna, thus creating a revolving fund for further explorations.

The situation of Mazatlan is singularly picturesque. The narrow harbor, sheltered by tall, craggy islands of varying form and size, opens near a noble beach, "Las Olas Altas" — the high waves —

constantly pounded by the great surf of the sea. Tidepools abound along the rocky shores; in them a multitude of little creatures find place among the pink corallines and other colorful seaweeds. Something of the charm of the place I tried to indicate in a poem written during our stay there.

Sinaloa

I

I dream of gray rocks rising rough and sheer
Above the trembling azure of the sea;
Of long green lines of waves that listlessly
Break in slow foam, then slip away in fear —
Or hide themselves in rock-pools, crystal clear.

I dream of long white paths that from the sea
Climb the gray Mother Range unwillingly
Through straggling ranks of palms and pines austere
To lands of Summer where slow days go by,
Each as it must, but most reluctantly;
Of black mantillas that but seem to hide
Dark eyes undarkened by the darkest night.
All this my dream — but ever by my side
Thou with the midnight eyes by love made bright.

II

We stand tonight on an enchanted shore;
The warm, slow pulse of the great Summer Sea
Rises and falls the night long, ceaselessly,
Beating its one grand rhythm evermore.
See where before us the stark moonlight falls
On Isla Blanca's bare volcanic walls —
Some shapeless monster breaking from the deep,
Lashing the waves in rising from his sleep!
Yonder in open ocean, hand in hand,
In solemn row, the three Venados stand,
Vast and impossible in moonbeams white,
As they were "Flying Islands of the Night."

Here Cerro Cruz her iron cross uplifts,
Triumphant over her resistant cliffs;
Beside her armed Vijía, dim and dun,
Guarding the harbor with her single gun;
Low at their feet, half hid in sea-mists gray,
Shine far the four stars of the Cross of May;
Beyond the headland with its palm tree lone,
Flashes the beacon-light of tall Creston —
The last and haughtiest of the craggy horde
Sierra Madre thrusts forth oceanward.

Behind us lies the town in slumber deep,
And all unrestless — as to thee and me
Man and his strivings now had ceased to be,
Or by some spell were bound in endless sleep,
Leaving us only on enchanted ground,
Alone together, where there comes no sound
Save the slow pulse-throb of the tropic sea
In the white moonlight beating steadily.

III

Perchance, dear heart, it may be thou and I,
In some far azure of infinity,
Shall find together an enchanted shore
Where Life and Death and Time shall be no more,
Leaving Love only and Eternity.
For Love shall last, though all else pass away,
The harsh taskmaster that we call Today,
Till each concession Time from Life has wrung
Like outworn garments from the Soul be flung,
And it shall stand, with back no longer bent,
Slave to the lash of its environment!
Then this great earth we know shall shrink at last
To some bare Isla Blanca of the past —
A rock unnoted in the boundless sea
Whose solemn pulse-beat marks Eternity.

In Mazatlan we made several new friends, among them Mr. and Mrs. William W. Felton and Dr.

George Warren Rogers. The latter, an able physician, had fled from Vermont to recover his health in the equable climate of Sinaloa, which during the clear, rainless winter seems absolutely perfect. The same cannot be said, however, for the wet and sultry summer. To Dr. Rogers I gave a copy of my poem, of which he made a Spanish translation afterward published in a Mexican journal. Mr. Felton, a business man of the city, and his excellent wife received us frequently in their hospitable home. *New friends*

At the British vice-consulate, a roomy structure overlooking the tumultuous Olas Altas, we found adequate quarters, very simple but clean and free from the typical nocturnal fauna of Mexico. From our land-side windows one could see the cemetery, with its monuments serving as perches for a grim array of scavenger birds. There roosted the two species of vulture, the Turkey Buzzard and the Carrion Crow, and one hawk, the *calele* or *caracara*, which has adopted the vulture's trade. These fowl in black, taken in connection with a rusty hinge on a swinging wooden blind of the Consulado, inspired me to the following lines, sufficiently uncanny perhaps to be inserted here, though with an apology to my readers: *A nightmare*

I had a dream of roses in their bloom
Casting their petals ever on the grass
Over the way the beautiful must pass —
When suddenly there rose o'er their perfume
A sense of vultures sitting on my tomb
In grand impossible conventicle,
Debarring me from entering its cell.
"Aha, my soul," I cried, "is this thy doom?
An errant derelict on seas of gloom,

While round about thee, long as death shall be,
Thou hear'st strange voices, ghastly shriek and twinge,
The grisly horror of a rusty hinge?"

Love and science

At Mazatlan also I wrote a poem [1] to my little daughter Barbara, which I called a study in heredity. For in it I sought to trace the origin of the black eyes she had inherited from her mother and grandfather Knight, but which, I felt sure, must have descended from a racial source outside of or back of my wife's New England ancestry. I therefore imagined that some forgotten rover from San Sebastian in Spain had joined his blood to that of the Puritan folk. As a matter of fact I later learned that the black eyes and olive skin went back through the Knight-Worden line to a Huguenot maid and her father, who fled from France to England to escape religious persecution.

To Barbara

Little lady, cease your play
For a moment, if you may;
Come to me, and tell me true
Whence those black eyes came to you.

Father's eyes are granite gray,
And your mother's, Barbara,
Black as the obsidian stone,
With a luster all their own.
How should one so small as you
Learn to choose between the two?

If through father's eyes you look,
Nature seems an open book —
All her secrets written clear
On her pages round you, dear.

[1] Published in *The Popular Science Monthly* for August, 1895.

BARBARA JORDAN, 1895

Better yet than this may be
If through mother's eyes you see;
Theirs to read — a finer art —
Deep down in the human heart.
How should one so small as you
Choose so well between the two?

Hide your face behind your fan,
Little black-eyed Puritan;
Peer across its edge at me
In demurest coquetry,
Like some Doña Plácida,
Not the Puritan you are.
Subtle sorcery there lies
In the glances of your eyes,
Calling forth, from out the vast
Vaults of the forgotten past,
Pictures dim and far away
From the full life of today,
Like the figures that we see
Wrought in ancient tapestry.

This the vision comes to me:
Sheer rock rising from the sea,
Wind-riven, harsh, and vertical,
To a gray old castle wall;
Waving palms upon its height,
At its feet the breakers white
Chasing o'er an emerald bay
Like a flock of swans that play;
Tile-roofed houses of the town
From the hills, slow-creeping down;
Rocks and palms and castle wall,
Emerald seas that rise and fall,
Golden haze and glittering blue —
What is all of this to you?

Only this, perchance it be
Each has left its trace in thee;
Only this, that Love is strong,
And the arm of Fate is long.

Deeply hidden in your eyes,
Undeciphered histories
Graven in the ages vast,
Lie there to be read at last:
Graven deep, they must be true;
Shall I read them unto you?

Once a man, now faint and dim
With the centuries over him,
Wandered from an ancient town
On its hills slow-creeping down;
O'er the ocean, bold and free,
Roved in careless errantry.
With Vizcaino had he fared,
And his strange adventures dared;
Restless ever, drifting on,
Far as foot of man had gone;
On his cheek the salt that clings
To the Headland of the Kings,
Flung from the enchanted sea
Of Saint Francis Assisi!
Rover o'er the ocean blue —
What has he to do with you?

Only this: he sailed one day
To your Massachusetts Bay,
And this voyage was his last,
For Love seized and held him fast.
Of that old romance of his
None can tell you more than this,—
Saving that, as legacies
To his child, he left his eyes
Black as the obsidian stone
With a luster all their own,
Seeing as by magic ken
Deep into the hearts of men.
And mid tides of changing years,
Dreams and hopes and cares and fears,
Life that flows and ebbs alway,
Love has kept them loyally.

Once, it chanced, they came to shine
Straight into this heart of mine.

Little lady, cease your play
For a moment, if you may;
All I ask is, silently,
Turn your mother's eyes on me!

Consulado Inglés, Calle de las Olas Altas, Mazatlan, Sinaloa
January 10, 1895

Ygnacio

While in Mazatlan, we had the excellent services of a *mestizo* (halfbreed) fisherman, Ygnacio Moreno by name. About the outlying islands, the Venados especially, as well as in the hulk of a French man-of-war sunk long since in the harbor by a hurricane, Ygnacio exploded dynamite with rich results. I must here explain that while the use of dynamite is wisely forbidden to fishermen in all civilized regions, a special license for scientific purposes was granted us by the local authorities.

Our gringo colorado

One day as we were drawing a seine on the beach, idlers crowded around and began to grab the fish. Tom Williams, red-headed, muscular football center, seized a young fellow by the shoulders and swung him about in every direction, thus effectually dispersing the mob. From that time forward, hangers-on had a wholesome fear of our *gringo colorado*, "red Yankee."

A paradise of birds

On the tide flats beyond the Astillero (estuary) gathered a marvelous array of birds — long-legged waders, herons and cranes, and swimmers such as pelicans, cormorants, gulls, and ducks, besides high-flying Tropic-birds and Frigates. In the market several varieties of parrots were on sale. The finest one we saw, "Loro Bonito," introduced in

earlier pages, was presented to us by Dr. Rogers. The smallest of them, the *perroquitos*, scarcely larger than sparrows, kept up a soft, minute conversation among themselves, "*povere perroquito, perroquito perro.*" It was soon remarked that we showed much interest in the birds, and trade began to look up. Two or three times small owls even were offered with the insistent claim that they were good talkers, "*habla mucho*," "he talks much."

Good talkers

The woods about the town swarmed with small, bright green *loritos* that screamed in unison, flying from tree to tree. Strolling one day through the deeper forest, we found monstrous lizards — *iguanas* — hibernating in hollow trunks, and occasionally across our path stalked a huge tarantula with furry coat of brilliant orange and black.

In Ygnacio's family lived a young pelican with broken wing, who played with the gamins of the street, never once noticing that he was only a bird, not a boy or a dog. At the lighthouse on Creston we made the acquaintance of a domesticated wild turkey-gobbler trained to stand patiently on your finger, precisely like a parrot, until his heavy weight forced you to put him down.

Hidden treasure

At Camarron, a lava cliff by the sea, men were digging in the hard rock for treasure said to have been hastily buried in the almost impenetrable stone by some early corsair. Their operations were directed, we understood, by a fortune-teller in a shabby boarding house on Sacramento Street, San Francisco. "A sucker is born every hour."

Parting from Ygnacio, I asked him to suggest some souvenir which we might send him from California. An "*escopete*," he confessed, was what his

soul most craved — a long-barreled muzzle-loading musket, and such we forwarded, to his great satisfaction, on our return home.

The following lines were offered by me as a parting toast:

Ygnacio's escopete

Here's to you, Ygnacio!
May your *escopete* scatter
Far and wide: it does not matter
If a single shot should gather
Half the ducks in Mexico!

4

After my return from Sinaloa the financial side of university administration became increasingly exacting; yet the strain of this period, shared as it was by all, stabilized and intensified the general *esprit de corps*. This fact lent a special quality to the Commencement exercises of that year, the graduation of the "Pioneer Class." The usual senior reception, for instance, was given by the faculty as a whole at their request, instead of by the president and his wife. And the farewells, always tinged with regret, were in this case more than ordinarily touching. Probably in no other institution of the size had the relations between professors and students been so intimate and so cordial as those which prevailed at Stanford University during the first decade.

The Pioneers graduate

The strenuous duties of the academic year, in connection with continuous scientific work which I was not willing to abandon, made it imperative, as well as delightful, to seek new vigor in the open

whenever possible, and in the long vacations we sometimes wandered far afield. During the summer of this year we had two fine outings. Leaving home in early June, we first visited the Yellowstone, this time as tourists, not as official explorers having the freedom of the park.[1] Nevertheless, the Upper Geyser Basin, with Old Faithful and his colleagues, and the Great Fall of the Yellowstone were as impressive as before.

The Yellowstone again

Our second trip was to Summit Soda Springs on one of the upper sources of the North Fork of the American River. This was at that time an agreeable resort — a small hotel and several cabins grouped about a fine carbonated spring with a pretty waterfall behind, and the tall pines crowding close. With the tiny chipmunks, always eager to take advantage of chance charities, we became great friends. For indeed the dwarf mountain forms of this charming beastie, the various species of the Western and Asiatic genus — *Eutamias* — are livelier and more sociable than the one Eastern *Tamias*. To me they are more interesting also, as the splitting into many species of *Eutamias* perfectly illustrates the effects of isolation and localization, every separate mountain forest having its own kind which seldom wanders far, and therefore does not mate with cousins even only a little removed. They thus offer some of the best examples of what I have called "geminate species." [2]

Mountain chipmunks

The Devil's Woodpile

Not far from the springs rises the Devil's Woodpile, an amazing dyke of perfect basaltic columns scarcely less remarkable than the Giant's Causeway in Ireland or the *Repos de l'Aigle* in Auvergne.

[1] See Chapter XIV, page 337. [2] See Chapter XIV, page 329.

A national university

While in Washington during the Christmas recess of this year, I was asked for advice in a matter which had long interested me. This was the project for a national university, a scheme more or less under consideration ever since the death of George Washington, who bequeathed most of his personal fortune for that purpose. Every other capital of importance except London has such an institution, maintained at public expense and serving as a center of scholarship and enlightenment. Nevertheless, whenever a concrete plan comes before Congress, it is blocked for one reason or another. But during several years previous to 1895, Hon. John Wesley Hoyt, ex-governor of Wyoming, then resident in Washington, had devoted his energies and fortune to the establishment of the "University of the United States." Mr. Hoyt's efforts met with a favorable response among scholars and teachers in general, and he developed a strong following in Congress.

Hoyt's efforts

From my point of view the arguments in favor of the proposed university were many and incontrovertible.

Opportunities for research

At Washington are centered the means for advanced studies in government, economics, and science, for the Library of Congress, the Smithsonian, the National Museum, the Army Medical Museum, the Geological Survey, the Coast and Geodetic Survey, the Department of Agriculture with its various bureaus, the Fish Commission, and other scientific establishments furnish material for advanced research without a parallel in the world. A university faculty consists of a corps of men who teach as well as investigate. Thus the only thing

needed to make a great university at Washington is to augment and coördinate its body of scholars, and place their services at the disposal of others. The true function of such an institution does not lie in the conduct of examinations or the granting of academic degrees. It should fill with noble adequacy the place which the graduate schools of our present universities still only partially occupy. In so doing it would furnish a stimulus to all similar work throughout the land.

Influential advocates

As strong advocates of the movement for a national university, several prominent men gave invaluable aid — among them Andrew D. White, Gardiner G. Hubbard, Alexander Graham Bell, and Robert Stein. Of White and his educational views I have already written at length. Mr. Hubbard was a well-known patron of science and letters, his hospitable and beautiful home serving as the literary center of the capital. Dr. Bell, the distinguished inventor, is a son-in-law of Mr. Hubbard; Dr. Stein was a member of the Geological Survey and a scientist of high standing in his field.[1]

Argument before the Senate

In Congress, John Sherman of Ohio, one of the ablest men in public life and then chairman of the Senate Committee on Education, took an active lead. At his request I appeared before the committee to present in detail the arguments for the scheme and to answer various objections which had been raised against it. The chief of these (though one not often frankly acknowledged) seemed

[1] In view of our coöperation at that time, Dr. Stein, while engaged in coördinating and mapping Arctic surveys, gave (1897) the name of Jordan Island to a large three-peaked mass in Hubbard Bay on the middle of the west coast of Greenland.

to be a phase of academic rivalry on the part of Columbia, and to some extent of Harvard; it was feared, perhaps, that government competition might diminish the relative prestige of those distinguished institutions.

The principal argument openly advanced was that a national university would surely become a political football. To me, that idea seemed patently absurd. An associated group of real scholars at the center of legislation would no doubt affect politics, but the men themselves would be above partisan influences, and no unworthy appointee could maintain himself in such a position. No other body, moreover, is so resistant to coercion or contamination as a university faculty.

Real scholars not partisan

The few scholars and investigators now in the Washington bureaus have an authority far beyond that of their official position. In the force of high training and devotion to truth, we find the key to the immense influence formerly exerted on our government by Henry, Baird, and Goode. Of such men are universities made, and until we have a genuine national university devoted to the highest learning and most profound investigation, we cannot say that we have truly a national capital.

Later, at a meeting of the National Education Association in Los Angeles, the general objections to the project were plausibly presented by Dr. Nicholas Murray Butler, then professor of Philosophy and Education at Columbia, afterward (1902) president of that institution. Having been previously asked to present the positive side, I followed with the substance of the plea I had made before the Senate Committee.

Discussions pro and con

Congress, I believe, would in time have acted favorably had it not been for the confusion of new issues incident to the war with Spain.

In the fall of 1895 I was elected president of the California Academy of Sciences. This useful institution, dating from the earliest '50's, struggled on for years with inadequate support until endowed by James Lick in 1876. Its funds were then mainly invested in a large office building in San Francisco, the museum occupying cramped quarters at the rear. For some time previous to my election the academy membership had been divided into two warring factions — one led by Dr. Davidson, the other by Dr. William Harkness, a physician of prominence and an expert in the study of fungi, especially of the group known as truffles. Both men were vigorous and rather intolerant, a combination of qualities which was not rare in pioneer days, and had disrupted more than one California organization even as it affected the famous "society on the Stanislow." Indeed, it is reputed that the discords in the institution furnished the motive for Bret Harte's satirical verse.

Faction in science

At the time of which I write Harkness had for some years been president of the academy, with the rival group more or less shut out from the management. He now expressed a desire to retire in my favor, and I was unanimously elected by the vote of both factions. I then endeavored, with fair success, to put an end to the old feud. Twice for different reasons I declined reëlection, holding the position, however, from 1896 to 1898, again from 1901 to 1903, and for a third time from 1908 to

Election as president

1911. During this period the academy publications were raised to a very high standard as to number, scientific value, and typographical appearance. For this, special credit was due Dr. Ritter, the editor; and it should be added that the same level of excellence has been continuously maintained by our successors.

In the disastrous fire which followed the earthquake of 1906, the academy lost its original building and most of its collections. For the next seven years it did little but mark time until accumulated savings made possible a new building. During that interval, however, Miss Alice Eastwood, Leverett M. Loomis, and John Van Denburgh, curators respectively of plants, sea birds, and reptiles, toiled steadily at the restoration of the collections. In 1913 the position of director was made a salaried one of importance, Dr. Evermann being called to it from the Bureau of Fisheries; in 1914 a fine edifice of concrete was completed in Golden Gate Park. Through the generous interest of wealthy citizens Evermann soon secured experts to continue the splendid series of habitat groups already mentioned. These feature the homes of various conspicuous birds and mammals of the Pacific Slope — sea-lions of two species, the hair seal, fur seal, deer, elk, mountain sheep, bear, panther, and other animals of the interior, as well as birds of the desert, swamp, and shore. Taken as a whole they represent some of the finest work of its kind, though perhaps the most impressive exhibit of the sort is at the University of Iowa — namely, a superb panorama of Laysan Island with its amazing variety of nesting sea birds. This was prepared under the direction

After the great fire

Natural History groups

of Professor Charles C. Nutting (a former student of mine in Indianapolis in 1874) from specimens and photographs secured by him on the expedition of the *Albatross* to Hawaii in 1902.

My relations with the academy workers, several of them of marked ability, are most pleasant. With many other similar groups, some of which have shown me special honors, I have also been at one time or another closely connected.

Active and honorary memberships

I am an elected life member, either active or honorary, of several different learned societies, among them the American Philosophical Society, the Zoölogical Society of London, the Cobden Club of London, the Royal Academy of Sciences of Sweden, the Linnæan Society of New South Wales, the Naturalists' Club of Sydney, and the Biological Society of Washington. In 1912 I was president of the American Association for the Advancement of Science. In 1921 I was welcomed as an honorary "Associate in Zoölogy in the Smithsonian Institution."

To the Audubon Society I have belonged from the beginning and for twenty years or more have been one of its officials, at least in name. In systematic protection of our native birds, this association has carried on a work of the highest importance, whether viewed from the economic or the æsthetic side. Of the Sierra Club, founded in 1891, primarily for the protection of Yosemite Park, I was a charter member and for many years a director.

Besides the above connections, I have served at home as president (1915) of the National Education Association, trustee and vice-chairman (1915–1916) of the (Carnegie) Foundation for the Advancement of Teaching, trustee of the (Carnegie) Association for Simplified Spelling, vice-president of the American Peace Society, chairman of an American Eugenics Commission, president of the American Vigilance Association, vice-president of the American Society of Social Hygiene, chief director (1909–1911) of the (Ginn) World Peace Founda-

ion, trustee of the Agassiz Association,[1] a director of the Boy Scouts, and in other positions of like character, some active, some partly honorary.

Abroad, I have been elected vice-president of the Eugenics Education Society of London, vice-president of the British National Association for Public Welfare, member of the Cobden Club, and dean of the American section of the World Peace Congress at The Hague in 1913. In addition, I belong to the French Fédération des Abolitionistes, and Bureau des Nationalités, the Fiskerei Verein of Norway, the Swiss Alpenclub, and the Norwegian Alpenforening; and since 1904, by election of the World Congress of Zoölogy at Cambridge, England, I have also been a member of the International Commission of Zoölogical Nomenclature.

On March 2, 1896, Stanford University received news of the favorable decision of the United States Supreme Court. All work was at once suspended; and the students, pouring out of the classrooms, proceeded to celebrate with the utmost enthusiasm. Unfortunately Mrs. Jordan and I had gone to San Francisco and so were for the time being out of reach. Nevertheless, the impatient young people surged over at intervals to the house, vociferating the Stanford yell. It was then that Loro Bonito, taking the air on a big live oak, listened with both his yellow ears, and between times diligently essayed the "Rah, rah, rah" slogan until practice made perfect. Arrived at the Palo Alto station after darkness had fallen, my wife and I faced an uproarious delegation made up of the whole Student Body. The horses now being detached

Loro Bonito now learns the Stanford "yell"

[1] In the work of this society founded and directed by Edward F. Bigelow, I have long been interested. Its purpose is the promotion of nature study among boys and girls. In 1911, I visited Bigelow at his center of operations, "Arcadia," Sound Beach, Connecticut. In California, excellent work along similar lines is carried on by C. M. Goethe of Sacramento, whose series of leaflets on bird ways has been effective in rousing and sustaining interest.

from our waiting carriage, the boys dragged us triumphantly up to the front of Roble Hall.

Mrs. Stanford's gratitude

During the evening, professors and students together waited upon Mrs. Stanford in her Campus home. There her quiet gratitude matched our exuberant joy, and an abundance of simple refreshments had been hastily gathered in from all available neighboring sources. By morning, the little local government post office, a temporary wooden building, had blossomed forth in a coat of cardinal red, much to its improvement; that artistic service, I may add, was reputed to be the work of a lad destined to become, twenty years later, president of the institution.

Herbert C. Nash

Among us all, I remember, no one rejoiced more than Mr. Nash, a scholarly and courteous gentleman of English birth from whose tribute to Mr. Stanford I quoted in earlier pages. For a number of years young Leland's tutor, he remained in the family after the boy's death as the Governor's private secretary, and was still practically a member of the household. Upon Mr. Woodruff's resignation as librarian at the close of this college year, Nash became his successor. In that position his work was entirely satisfactory, for although without technical training, he had excellent judgment and a wide knowledge of books. His death in 1902 left a gap in the university community.

CHAPTER TWENTY-TWO

Fur Seal problem

For the summer of 1896 I was called upon to undertake a totally new and most interesting scientific task. In the spring Charles Sumner Hamlin, then Assistant Secretary of the Treasury, came to see me at the University, bringing President Cleveland's request that I take the headship of the American division of a Joint High Commission of Investigation of the Fur Seal[1] problem in Bering Sea. For though the questions in dispute between Great Britain and the United States had been placed in 1893 before a Tribunal of Arbitration at Paris, the verdict or award was ineffective for the preservation of the herd.

The failure of the Paris Award (which failure had been used as an argument against Mr. Cleveland's proposed general Treaty of Arbitration with Great Britain, put forward during his first administration)

[1] It must be noted that, zoölogically speaking, the "Fur Seal" is not really a Seal, but rather an aquatic Bear. True seals or hair seals — *Phocidæ* — have no external ears; their fur is short and thick, mostly yellow-gray in color; the position of their hind legs prevents them from walking on land; and their short digitigrade feet are not provided with flippers. Among land animals their nearest relative is the Otter.

The various species of Fur Seal, Sea Lion, and Walrus have external ears and plantigrade feet in which long flippers extend beyond the small toenails; they can walk on land, though a bit clumsily. The males are strong, courageous, and pugnacious. Among land animals their nearest relative is the Bear.

The Fur Seals of Bering Sea are not all of one species. That of the Pribilof Islands — *Callorhinus alascanus* — is the largest and most valuable. The Russian species — *Callorhinus ursinus* — is darker in color, with longer neck and coarser fur. The Japanese form — *Callorhinus curilensis* — is still smaller and (unlike the others) has the under fur of a yellowish shade. The sealskin of commerce, I should here explain, has all the long hairs drawn out, after which the pale under fur is dyed a warm brownish black.

arose from its double nature. This embraced questions of law on the one hand and problems of Natural History on the other. The United States, moreover, had claimed too much and proved too little. First we had insisted on joint ownership with Russia of Bering Sea, contending this to be *mare clausum* (closed sea) and so asserting ownership of the herd wherever it might stray. Secondly, we failed to make clear the international values of the Fur Seal and the methods essential to its preservation — these last hinging on the fact that while superfluous males may be safely and freely killed on land, pelagic sealing or slaughter in the sea, a process that mostly involves gravid females, cannot fail to be ruinous.

Blaine's "mare clausum"

The unwarranted contention that Bering is *mare clausum* was a pet notion of Mr. Blaine, the astute and conspicuous Secretary of State under President Harrison. Furthermore, the failure to call to Paris our own excellent committee of investigation, Dr. C. Hart Merriam and Dr. Thomas C. Mendenhall, was another serious mistake.

As to those sections of the Award which were based on international law, the Tribunal was very likely in the right; as to those parts dealing with the habits and necessary protection of the animals themselves, the judges had been ill-informed, much of the testimony being prejudiced and some even perjured. Unfortunately, also, they showed very little interest in any aspect of the case not purely legalistic or diplomatic.

Under the "protective" regulations adopted in 1893, the herd was rapidly dwindling, a fact which had been stated in rather sharp but truthful lan-

guage by John W. Foster in 1895 in a note of the State Department. It was in connection with criticisms of Foster's plain speaking on that matter that the phrase, "shirt-sleeves diplomacy," had its rise. Concerning this, Hamlin said to me: "If you want to get John Bull's attention, you must heave a brick through his front window."

Breeding homes

The case at issue was really a very simple one. The Fur Seals of the North Pacific make their "homes" and breed on islands in Bering Sea — the Pribilofs (St. Paul and St. George) belonging to the United States, and the Komandorski or Commander group (Bering and Medni or Copper) owned by Russia. Beginning with the first official Russian occupation, the breeding grounds — "rookeries" — had received all necessary protection; but continued existence of the herds is dependent as well on security at sea while the animals are feeding or migrating in the ocean beyond the legal three-mile limit of territorial jurisdiction. Winter is spent by the entire herd in the open — the old males moving coastwise as far as the Gulf of Alaska, the mature females ranging far offshore down to the latitude of San Diego, while the young are scattered variously between. In June and early July all return to the islands, where the "pups" are born and where the young remain until October storms drive them all away. Meanwhile the adults necessarily leave at intervals to feed, going out for that purpose from 100 to 200 miles.

Roving habits

For many years, under both Russian and American control, land killing was confined to young superfluous males. And as only about one adult male or "beachmaster" in from thirty to fifty is

able to maintain himself on a rookery and rule a "harem," the great majority are of course superfluous. On land the "killables" are driven about and handled as easily as sheep, and no general diminution has ever arisen from such selective slaughter, the survival of even one male in a hundred being sufficient for the actual needs of propagation.

Each mother gives birth to one pup a year, the proportion of males and females among the newly born running practically equal. During the '70's there were at least a million breeding mothers on the American islands, and perhaps half as many on the Russian. But pelagic sealing, begun in a small way as early as 1872, had within a decade already become a menace. Necessarily the majority of those caught at sea were females, for land killing continually reduced the relative number of males. Moreover, each female taken meant the destruction of not only the unborn young she carried, but also of the nursing pup she had left on the beach while she went out to feed, and which thus died of starvation. By 1897 there were only about 130,000 breeding females on the Pribilofs, with less than half as many on the Komandorski, where protection was not so extended. Slaughter of the mothers at a rate in excess of the rate of increase was thus rapidly destroying the herd; although other causes have been assigned for diplomatic purposes, none is worthy of the slightest consideration in the face of the plain facts.

Disastrous effect of pelagic sealing

At Paris in 1893 it was evident that no existing canon of international law covered the case, there being no other valuable animal with similar habits and so no adequate precedent for protection; the

From "The Story of Matka"

seizure of any wild creature anywhere in the open sea had always been assumed as a universal right. In the unquestionable absence of applicable international statute, it lay within the province of the Tribunal to make new law. This, in fact, it did by its limitation of pelagic sealing, though in such an ineffective way that the action was valueless except as a legal precedent.

Contention of the United States

Stripped of verbiage the vital claim of the United States was based on the following correct assertions: (*a*) The Fur Seal has a high economic world value; (*b*) the nature and habits of the animal being what they are, only selective killing of males on land can be safely allowed; (*c*) adequate protection had previously long existed, so that an established and valuable industry had grown up; (*d*) killing at sea was leading to extermination, already far advanced; (*e*) common interest, therefore, demanded the abolition of pelagic sealing, and the recognition that ownership of the herds accompanies ownership of their homes.

Our case was complicated and vitiated from the start, however, by further claims of a different nature; namely, (*a*) the right to exercise exclusive jurisdiction over the herd wherever found and (*b*) over the sea in which it roamed and fed, together with (*c*) the right to use force in support of such jurisdiction. As to the last the United States Government had already seized several British vessels found operating in Bering Sea.

The essential factor in the American contention was the right to protect the Fur Seal, as all other claims were useless without it. The assertion of sovereignty over Bering Sea, of little importance in itself but pretentious in form, was used by Blaine to awaken popular interest at home, even though it aroused opposition in Europe.

The Award of the Tribunal, in brief, was:

1. Denial that Bering Sea is *mare clausum*.
2. Denial that the Fur Seal herds are property of any nation when in the open sea.

Paris Award

3. Denial of the right of seizure of sealing vessels at large, and requirement that vessels already seized should be paid for.

4. Provision for "the protection and preservation of the Fur Seal" in the common interest.

The last object it was sought to accomplish through a series of regulations by which pelagic sealing, while recognized as legal, was subjected to certain restrictions. Thus during May, June, and July it was prohibited everywhere on the American side, and at all times within sixty miles of the Pribilofs. Around the Commander group no time limit was set, and the other restriction was for thirty miles only. As already implied, these regulations, though in a degree useful, were quite inadequate.

2

The duty of the American commission of 1896 (continued in 1897) was to make a fresh and complete study of all the facts concerned, and then recommend means for saving the herd. A British commission under similar instructions worked jointly with us. A Japanese group had also been appointed, but its members were unable to reach Bering Sea; they did, however, join us at Washington in December.

Concurrent with our efforts, it was of course necessary to review those of previous investigators.

Early records

For this, a basis was furnished by the work of the Russian bishop, Ivan Veniaminof, venerable "apostle of the Aleuts," whose very precise and concise account of the seal islands appeared in 1839, and to which later Russian investigation added little. The first report after our purchase of Alaska was that made by Captain Charles Bryant in 1870. This was followed in 1874 by the elaborate account of Henry W. Elliott, then a young artist employed at the Smithsonian Institution. Elliott's original observations were in general keen and graphic, and

his drawings very spirited, so that the total had a distinct value for subsequent investigations. But his estimate as to numbers (based on the space occupied by the rookery as a whole, divided by the number of square feet assumed to be covered by one individual) I always thought far too high — an opinion recently verified by the measurements of G. Dallas Hanna, now curator of Invertebrate Paleontology in the California Academy of Sciences.

First estimate as to numbers

In 1891, in preparation for the Paris Tribunal of 1893, Mr. Elliott made a second trip to Alaska. From this he returned with a bitter animus against the North American Commercial Company (which as lessee of the islands had succeeded the Alaska Commercial Company) and with the strong obsession that the killing of superfluous males was a determining factor in the enormous deterioration which the herd had suffered since his previous visit. On the other hand, the several trained and competent observers[1] sent successively to Bering Sea from 1890 to 1895, agreeing in every particular, demonstrated that the elimination of superfluous males had no greater effect on the breeding seal herd than on a herd of cattle or a flock of sheep, and furthermore reported that the sole cause of destruction lay in pelagic sealing.

Land killing of males

My associates

At the time of my appointment I was notified that two of the ablest naturalists of the United States National Museum, Leonhard Stejneger (mentioned in earlier pages) and Frederic A. Lucas, would be commissioned as my associates; also that the U.S.S. *Albatross* under Jefferson Moser of the Navy, and with Charles H. Townsend as naturalist, had been assigned

[1] C. Hart Merriam and Thomas C. Mendenhall, then Barton W. Evermann, and (later) Frederick W. True and Charles H. Townsend — all to the Pribilofs; and Leonhard Stejneger to the Commander group.

for the service. As secretary and recorder I chose Clark, then academic secretary of Stanford University.[1] With us went also Joseph Murray, then acting as special agent of the Treasury Department, afterward chief agent of the islands for a second term.

A capable group

Captain Moser and his first officer, Lieutenant Parmenter, were deeply interested in the work and furnished the triangulations and measurements on which our maps were based. Stejneger's services were invaluable, the more so as he had already spent a summer on the Commander Islands, making an elaborate investigation of the Russian Fur Seal. Lucas, a comparative anatomist of high rank, devoted himself to a study of the structure and habits of the animals of the Pribilofs.

Townsend had been for a number of years the scientific expert of the *Albatross*, and had several times made maps showing the yearly decrease of the Pribilof rookeries, on which the abandoned territory of one year was invaded the next by the delicate "seal grass" or foxtail—*Alopecurus merriami*. The mapping and photography for our commission was therefore especially assigned to Townsend, and was executed with remarkable skill. He afterward became director of the New York City Aquarium at Battery Park, while Lucas later took charge of the Brooklyn Museum of Natural History, and then of the American Museum in New York.

The accuracy of Clark's records and his large familiarity with stock breeding made him an extremely valuable member of the commission. Afterward he was several times sent by the Government to take general charge of the islands during the summer, and to count the herd from year to year. He thus ultimately became the highest authority on the life and habits of the Fur Seal, a subject on which he wrote numerous papers as well as governmental reports.

The British commission

The British commission was headed by D'Arcy Wentworth Thompson, professor of Zoölogy in the University of Dundee — a scholarly naturalist with a wide range of interests, literary as well as biological.[2] Associated with him were James Macoun

[1] See Chapter XVIII, page 445.

[2] All of Thompson's numerous bags and boxes were labeled "Behring Sea Mission." Seeing them on the pier at Liverpool, a bystander inquired: "Now where are the missionaries?" And one day when the professor appeared in his

JOINT BRITISH-AMERICAN COMMISSION FOR FUR-SEAL INVESTIGATION, UNALASKA, 1896

From left to right: Jordan, Clark, Murray, Moser, Lucas, Townsend, Thompson, Macoun, Stejneger

of Ottawa, botanist of the Canadian Museum, and Gerald E. H. Barrett-Hamilton, a young British naturalist. These gentlemen accompanied us on the *Albatross* as guests of the United States Government, and every possible courtesy was shown them on the islands. From Ottawa was also sent Andrew Halkett, a skillful observer who spent the entire summer on various sealing schooners.

Through Alexander Archipelago

Leaving Seattle for the north in early June, we had one of the most delightful sea-trips in the world, the "inside passage" through the Alexander Archipelago, a maze of rocky, wooded islands between Vancouver and Sitka. At the Indian village of New Metlakahtla on Annette Island, we met for the first time the missionary, William Duncan, a very remarkable man. Sometime in the '70's, as clergyman of the Anglican Communion, Duncan had begun his labors among the Simsian Indians, a fierce tribe of cannibals living on the mainland coast of British Columbia, south of the Alaskan line. By sheer force of personal courage, after many hairbreadth escapes he won the confidence of the people, and then proceeded to civilize and Christianize them, so that later, under his direction, they built a pretty village called Metlakahtla, and became comfortably self-supporting.

A great achievement

The Church, taking belated and unintelligent notice of the good work, then sent out a bishop to direct it. But the latter insisted on the use of wine at Communion, an arrangement to which Duncan strenuously objected, as even a taste of

best suit, Lucas remarked: "Any one would know that your clothes were made in London." Thompson seemed gratified. "How so?" he asked. "Because none of them fit," was the answer. But I soon had my fling at Lucas, who was recounting his boyish adventures on a trip to the South Seas. "Everywhere we stopped," said he, "the people ran out to look at me." "No wonder," I retorted, "with that bunch of red side whiskers!"

intoxicants has a maddening effect on the Indians, who were kept temperate only by the most rigid prohibition of alcoholic drinks. Moreover, the belated presence of a tenderfoot official as director of a difficult work already accomplished was resented by the whole community. Duncan therefore decided to remove his flock from the bishop's jurisdiction. He accordingly arranged with the United States Government for the occupancy of Annette Island, Alaska, some fifty miles more or less from the former location. And thither nearly all the people migrated with him, leaving the abandoned settlement to the bishop, while they proceeded to construct a "New Metlakahtla." This is a substantial village with salmon cannery, church, schoolhouse, brass band to greet incoming boats, church choir, Sunday school, and "societies of culture." The steamer they built, however, they were not allowed to use for a long time, because not being United States citizens they could not be licensed as pilots or engineers, and duly licensed white pilots would not work for Indians. After our visit the absurd embargo was raised by order of Mr. Hamlin, to whom I explained the situation.

Removal to Annette Island

On the town hall of New Metlakahtla, under the carved figure of a lion and an eagle, runs the following inscription:

New allegiance

> We leave the King of the Beasts, for he is a deceiver; he says no one is a slave under his flag. So every year he punishes us without cause; he held up his naughty gun to crush our village. Now I find my good friend, he is King of Birds; he has sharp eyes to watch over our village if the enemy surround it. I bid the Lion farewell.
>
> Independence Day, August 7, 1887.

Sitka, the quaint, dying, old Russian capital, I found unexpectedly charming. Few towns, indeed, have a fairer site. In front, at the mouth of its green harbor, towers the white cone of Mount Edgecombe, a great cold volcano, while behind, the damp, green forest leads backward to a high, broken range, snow-covered and singularly picturesque. In the ancient church are some beautiful paintings dating from the time when the sea-otter trade filled the Russian ports with gold. *Sitka*

Two days out from Sitka we hoped to see the mighty snow mass of St. Elias, 18,000 feet, with its huge Malaspina glacier, forty miles across where it ends near the sea; but the cloud rack hid both completely in this and my subsequent trips. From Kodiak on, however, the journey was brightened by the sight of occasional snowy islands. White Shishaldin, a still-smoking volcano of perfect symmetry rising apparently sheer from the sea, stands unique in my memory; Pavlof on the mainland is also active and likewise white with driven snow. But Unimak and Akutan islands bulk huge and dark at the eastern base of the long Aleutian chain. *Glaciers and volcanoes*

Beyond them lies the greater Unalaska with its monstrous volcano, Makushin, — not at all a cone, — at the foot of which the splendid waterfall of Cape Cheerful plunges off a high shelf in one swift leap out into the sea. Commercially, Unalaska is by far the most important of the Aleutians, as its two excellent harbors are necessarily utilized by all vessels bound for the north. Captain's Harbor, the inner anchorage, was named for Cook, the celebrated explorer, who once spent the winter there. The outer and then more important landing-place is *Unalaska*

known as Dutch Harbor — *Golinsky* — a misnomer, of course, given in honor of the visit of a German, Alexander von Humboldt.

At Captain's Harbor we found a remarkable case of "ontogenetic species" — that is, forms which do not breed true because they owe their distinctive peculiarities, not to heredity but to differences in environment, so that with changed conditions they lose certain surface traits; they thus illustrate the important truth that the outside of an animal shows where it lives, the inside what it is. Into the east shore of the harbor, over a waterfall too steep for fish to ascend, flows a small brook well stocked with Dolly Varden trout, all of very small size, not reaching the weight of even half a pound. In the waters below, where space is adequate and food abundant, the swarming Dolly Vardens average from eight to ten pounds at maturity. Trout and char, above all other kinds of fish, are molded by their surroundings. The small size of the brook forms is due to narrow range and scarcity of food.

Dolly Vardens big and small

Arctic flora

During the summer the moss-covered low hills sheltering both harbors are gay with flowers. Especially charming is the maroon-colored Saranna Lily, a species of Crown Imperial or *Fritillaria*. Everywhere, too, creeps the dark crowberry of the Arctic — *Empetrum* — with here and there the delicious, amber-fruited raspberry locally known as *molino*.

While the *Albatross* was coaling at Dutch Harbor, we drew our nets in the inner bay, bringing to shore quantities of cod, greenling, Dolly Vardens, and other species. During this operation several hungry men, deserters from the harsh régime of steam whaling ships, Arctic bound, came down from the hills

SITKA, ALASKA

and begged for whatever we could spare. On the beach rotted the hulks of four Canadian sealers seized by order of Secretary Blaine and for which, by the Paris Award, the United States had been obliged to pay.

Leaving Unalaska, we sailed through fog and storm for a day and a night, arriving in the early morning at about the place where Captain Moser said "St. George [Island] ought to be." The ship now felt her way gingerly along until we heard the gruff roar of the "beachmasters" on the East Rookery. With this were mingled the loud bleats, exactly like those of sheep, of the few females already returned from their long swim. *St. George*

3

Having made a hasty survey of the four large breeding grounds of St. George, we passed directly to the more important island of St. Paul, forty miles distant. There we were cordially welcomed by the excellent agents in charge, J. B. Crowley and James Judge, and by J. Stanley-Brown, a son-in-law of President Garfield, at that time representative of the then lessees, the North American Commercial Company. Stanley-Brown was an attractive and capable young man who had served as a secretary at the Paris Tribunal and afterward as government agent on the islands prior to the appointment of Mr. Judge. Besides the three named above, we found a dozen or more other employees of the United States or the company; and Mrs. Judge, a charming young bride lately arrived from Ohio, furnished a pleasant touch of femininity. *St. Paul*

The Aleuts

The native population, about three hundred in all, descendants of Aleuts brought as needed in the early days from Alaska or Kamchatka, lived in decent cottages, puritanically white, though on the Russian islands the authorities tactfully allow various shades — blue, green, yellow, or scarlet — to suit the taste of the occupant. The Aleuts do the work in connection with the seal industry, but as the season is short they are mightily at leisure for the greater part of the year, and are, moreover, generously provided with food by the Government. Of this a large and very acceptable part consists of the flesh of the beasts killed for skins. Many of the people are quite intelligent and capable; some of them show traces of Russian, and others (apparently) of American blood. Apollon Bovedurfsky, the tribal chief, was a man of ability and proved helpful in our work.

Practically the whole of every day was spent by us in observation of the animals. Strolling thus across Zolotoi[1] Sands on my way to Gorbatch Rookery, I once made an unexpected discovery, for in the sand I saw the skeleton of a young Fur Seal, which seemed at once to clear up the mystery of the so-called "Roblar Man." In 1894, Mr. Van R. Elliott, a civil engineer of Paso Robles, reported to me the discovery of a fossil skeleton, apparently human, on a hill at the neighboring hamlet of Roblar. At Elliott's suggestion I went to examine the specimen. The imprint lay on a bare outcrop of a very hard, white limestone deposited in Miocene times as a soft calcareous clay. Head and limbs were lacking, but the torso seemed surprisingly like

The 'Roblar Man"

[1] This word, which means "golden," is locally pronounced "Zoltoi."

that of a child, and the local press made something of a sensation of the "Roblar Man, the earliest record of the human race." I did not, of course, believe it to be human, as no certain trace of man appears until long after the Miocene period; yet I was unable to identify it as anything else. I therefore asked J. P. Smith of Stanford to secure for purposes of study the section of rock in which the remains occur. The owners of the property, however, were not enthusiastic over the removal, and the flinty nature of the rock made the process very difficult. But Dr. Smith being allowed to take a cast of the imprint, we sent duplicates to several osteologists, none of whom was able to identify the form with certainty, although Lucas made a not improbable guess that it was a species of dolphin.

Puzzled experts

The Zolotoi skeleton lay in exactly the same position as our fossil; the details, moreover, corresponded closely, leaving little doubt that the Roblar Man was some kind of Fur Seal or Sea Lion, or possibly, as recently suggested by Remington Kellogg, a baby whale.

Other occasional incidents varied the routine. One day when Apollon and a helper were out fishing with a hook and line, they caught a six-foot halibut which they dared not bring home until every one had gone to bed, for fear "Dr. Jordan would want to put it into alcohol." Learning next morning of their luck, I took a photograph of the great fish, but explained that I had no other use for specimens of that size!

Apollon's big halibut

At another time the same two Aleuts came near bringing me into serious trouble. It was one of

To Zapadni and back

the rare days without wind or wave, and we took a whaleboat to row over to Zapadni, two miles away, a method far less fatiguing than the usual tramp through waist-high wet grass, rocks, and sand. But as we came back, a sudden fog shut tightly down; Apollon then lost his bearings and thought he was heading straight toward the village, though I insisted that his course led directly out to sea. He was obstinate, however, and consented to only a slight compromise. Fortunately the mist lifted after an hour or so as suddenly as it had dropped. Tolstoi Head was now disclosed directly behind, while our prow pointed straight for Kamchatka, 2000 miles away.

A tale of the Mist Islands

During the summer, a few days of enforced idleness gave me time to write "The Story of Matka," my own best animal tale and, in its way, the best of its kind, each incident being drawn from actual happenings (as vouched for in every case by photographs) and the local color being therefore absolutely genuine even to the last item. "Matka" thus differs totally from the ingeniously clever "White Seal" of Rudyard Kipling.

The accident which confined me to the house was a curious one. As I climbed a low cliff behind Lukanin Rookery, an "idle bull" I had not noticed made a lunge at me from above. Both of us then fell to the bottom of the cliff, after which I limped back to the village with a sprained ankle, leaving my antagonist with a snubbed nose.

In the course of the season we did some deep-sea dredging with the *Albatross*, which was especially fitted for that sort of work. Our principal trip ex-

FUR SEAL ROOKERY ON LUKANIN

From "The Story of Matka"

tended from St. Paul southward to the Bogoslof Islands, where at a depth of 664 fathoms (3984 feet) we obtained many interesting fishes; among them were two new species of "grenadiers" — *Albatrossia pectoralis* and *Bogoslovius clarki*. Another species of this type, the "Popeye" — *Macrourus cinereus* — literally swarms on the bottom at that depth in Bering Sea. *Deep-sea fishes*

The two islands named for Su Ivan Bogoslof (St. John the Revelator) are among the most remarkable volcanic dykes in the world. The first arose hot from a depth of over 600 fathoms in 1795; beside it for nearly a century stood Sail Rock, a lone shaft of lava. But in 1883 the Rock disappeared, while at a distance of nearly a mile a red-hot mountain burst from the depths to the accompaniment of "earthquake shocks and subterranean thunders." For years the second mass steamed and sputtered, and even yet it is said to be not quite cold. *The first Bogoslof*

There was, however, more to come. The Bogoslof group lies on the line of the great earthquake rift of California, and the *temblor* of April 18, 1906, threw up another steaming island. This was discovered the following June by Dr. Gilbert, then in charge of the *Albatross* on its way to make a survey of the deep waters about Japan. The third mass was not quite as large as the others, and apparently less compact. By 1909 it had entirely disappeared, leaving "in its place a lake of boiling water arising in the icy sea." Meanwhile the first and second islands still remain practically intact, although much eroded by the waves. *The last*

Upon our return from the Bogoslofs, the *Albatross*, under Stejneger's direction, went to the Commander

Islands for further observations, and thence to the Kuriles, on three of which rookeries of the Japanese Fur Seal had formerly existed.

4

Life on the Pribilofs

By the end of our stay of nearly three months we had made an elaborate and thorough study of every rookery on the two Pribilofs, supplemented by ample photographs covering the whole season. The mature "bulls" or "beachmasters" (500 to 700 pounds in weight) are for the most part on hand in May before the snow banks are all gone. The younger males, "half-bulls" or "bachelors," arrive in late June or early July, the oldest among them earliest. The young of both sexes, those from one to three years old, drift in from the middle of July to the middle of August, a few early arrivals among the yearlings finding places at the foot of the rookeries, where they teach the "pups" to swim. From June 20 to July 20 the adult females or "cows" (weighing less than 100 pounds) come straggling back, usually in small groups, most of them about July 1,[1] a large majority of the young being born about July 5. One of the most marvelous instincts known in nature is that possessed by the mother seals. Leaving in February the latitude of California, they beat their stormy way northward, passing in fog through the narrow straits of Akutan or Unimak, and reach their rookery homes about a week be-

[1] In the Russian language the beachmaster is known as *Sikatch* (*Atagh* in Aleut); the half-bull or bachelor, from five to eight years of age, as *Polusikatch*, *polu* meaning half; the younger males as *Holostiak;* the females as *Matka*, or mother; the little ones as *Kotik*, or puppy. A beachmaster without a harem is an "idle bull," a status he fiercely and persistently endeavors to change.

fore the pups are due. A pup born at sea would, of course, be drowned immediately; and no Fur Seal has ever been known to land anywhere save on breeding islands. Furthermore, the old ones mostly return to their own special rookeries, which they rarely leave for any other.

An interesting exception to this habit came under my observation. One day a big beachmaster, eight or nine years of age, a semi-albino and therefore easily recognized, landed on Gorbatch Rookery, where for nearly a week he savagely tried to break in. But the whole shore being already preëmpted by older bulls, he was forced to retire so far back that no females joined him, and in disgust he finally crossed the narrow peninsula to the Reef Rookery, where his luck was better. *The white seal*

At the outset of our labors it seemed to me that a "Fur Seal Census" was a pressing necessity. We therefore undertook the first actual count of the animals ever made, their great abundance in earlier years having precluded any previous attempt at enumeration. To count the 4629 harems from a boat in the sea or from the cliffs above proved a relatively easy matter. With considerable difficulty we also enumerated the visible mothers, though after a while we discovered that at no one time were more than half of them actually present, as even before the tardiest arrived, the earliest have gone off to feed. *Counting harems*

In each harem belonged from one to fifty "cows," the average number being about thirty-five. But it was evident that a trustworthy figure would be gained only from a census of the pups, each one of

which predicated a mother. Up to August this was impossible on account of the ferocity of the bulls. At that time, however, the young began to learn to swim, and harem discipline was rapidly relaxed.

The old fellows leave

For the old beachmasters, having grown very hungry, very sleepy, and relatively gentle after two months of fasting and standing guard, then swam off to sea for food. Meanwhile the eager *Polusikatchi*, who had watched from the rocks above, crowded down to take the vacant places, tumbling hastily into the sea at the roar of a returning despot.

At this juncture, before the pups were able to scatter to any distance, we counted them with fair accuracy in spite of heavy handicaps. Occasionally it was even necessary to drive the mothers into the sea in order to get sight of all the young ones. Contrary to some preconceived notions, the females soon returned, showing no evidence of fright.

The number of young, and therefore of breeding females, we estimated at 143,071. The count next year, more accurate because of our larger experience, fixed the current total at 129,216.

The little Blue Fox

Besides the Fur Seal, several other interesting animals frequent the Pribilofs. Commonest among these is the diminutive Blue Fox — *Alopex pribilofensis*. The long, thick fur of this little beast is normally gray-blue or dove color throughout the year, although about one third of the whole number of individuals are white at all times — the basis of the hairs, however, being always blue. This creature is thus a curious anomaly, most subarctic forms — ermines, hares, ptarmigan, owls, and buntings — being white only in winter.

SECOND BOGOSLOF AS IT ROSE FROM THE SEA, 1883

All foxes are monogamous for life. *Alopex* makes its nest deep down in crevices of the lava blocks along the shore, where the young are born, and where they *gurgle-gurgle* in their throats until big enough to come out and run along the ancient "fox walks" from one hole to another. The adult animals have a very high, sharp, rasping note. "*Kling-g-g, kling-g-g-g!*" like the noise of a "scared buzz-saw" as I once ventured to put it. *Fox walks*

From August on, the Pribilof foxes feed largely on the starved or trampled pups which they furtively steal as soon as discipline is sufficiently relaxed to allow them to enter the harems. In the height of the breeding season it would surely be more than a fox's life is worth to try to break in. They then make raids on the *chutchki* and other auks which abound about the cliffs, especially on the black sea-parrot or tufted puffin, tall, erect, and dignified, with a great red bill apparently made of sealing wax, a white mask over his face, and a white plume at his crown. *An odd countenance*

Once as I lay without apparent sign of life on the moss behind remote Vostochni, a little blue fox espied me and ran round and round in narrowing circles until at last he got near enough to make a quick snap at my rubber boot, meanwhile fixing on me his hard, gray, selfish eye; for among all the beasts no other has an eye so cruel-cold as his. But the boot being unexpectedly tough, he ran away as fast as he could, crying "*Kling-g, kling-g, kling-g-g!*" while all the little foxes went *gurgle-gurgle-gurgle* underneath the rocks. *Cruel eyes*

On Morjovi once lived also the greatest of all Northern beasts, the Walrus, for which, in fact, the

rookery was named. In habit he had much in common with his neighbor, the Fur Seal, though never straying far from home even in midwinter. Now only his bones remain, mute witnesses to his ruthless extirpation by man.

Vostochni and Morjovi being twelve miles from the village, in the course of our investigations I had occasion to spend two nights in the little shack hard by the latter, the humblest sort of shelter. But on the wall was nailed a decent reproduction of the Trial of Constance de Beverley, and the shelf held a single book, the lurid "Wormwood" of Marie Corelli. Near Morjovi the Gray Sea Lion — *Eumetopias* — a huge but timorous species, also has a rookery. The males, weighing upward of a ton, have a musical voice of great volume like the deep tones of a mighty pipe-organ, quite different from the guttural roar of the beachmasters. Across the island, beyond Vostochni, lives the true Seal or Hair Seal — *Phoca pribilofensis* — of very different nature from any of the others. He makes very little noise, and slips softly into the sea when disturbed. He walks on his toes like a dog or cat, but his limbs are bound so closely to the body that on land he can only crawl.

Marie Corelli and the Gray Sea Lion

The Hair Seal

5

Toward the end of October, the rookeries breaking up and our work being finished, we left Unalaska on the revenue cutter *Richard Rush.* At Dutch Harbor there was every sign of rough weather, and appearances grew rapidly worse. To add for a moment to the captain's anxiety, in Unimak Pass

we suddenly felt a great jolt as if the ship had struck a rock; but it was soon discovered that the whale, struck amidships, had more cause for alarm than ourselves. Just outside the Aleutians, however, we encountered a violent storm from the east; around the Shumagin Islands it was so fierce that the cutter made no progress whatever. Putting out a sheet anchor to check the backward drift and pouring oil on the water, Captain Roberts tried, though unsuccessfully, to steam forward in the teeth of the gale. We thus remained practically stationary for two days and nights. Moreover, during the fury of the storm no cooking was possible, and boards were nailed on our berths at night to hold us in.

"Through storm and fog, by luck or log, We sail as Bering sailed"

Arrived at last at Sitka after a journey of ten days instead of the usual six, we thought it the Promised Land and Mount Edgecombe a veritable Sinai. At the little inn the Joint Commission gave a banquet to the local authorities and the officers of the *Rush*, though Captain Roberts, finding that the original company numbered thirteen, resolutely refused to sit down until an extra guest was gathered in. Thompson's after-dinner speech was a charming and eloquent one. I myself touched a responsive chord in referring to "that Greater Britain to which all English-speaking people belong."

Greater Britain

The voyage from Sitka south to Seattle on the *City of Topeka*, again by way of the inside passage, offered few incidents worth noting. But passing through the long and narrow Grenville Channel in a dense fog made heavier by smoke from forest fires, the boat was steered by whistle-echoes thrown back from the cliffs on either side. At Seattle the

commission broke up, with the understanding, however, that it would meet in Bering Sea the next summer for the special purpose of making a relative comparison of the two seasons, and also of visiting the Russian rookeries.

A tempting offer

Reaching home, I found a letter written by Gardiner G. Hubbard on behalf of the board of trustees of the Smithsonian Institution, offering me, as successor to Dr. Goode, the (combined) positions of assistant secretary and director of the United States National Museum, over which the Smithsonian has control. It was also understood that on the retirement of Dr. Samuel P. Langley the new incumbent would succeed him in the secretaryship. This offer of the most honorable position in American Science was very tempting, but in view of my obligations toward Stanford University and my faith in its future, I felt obliged to decline. Afterward it was suggested by one of the Smithsonian trustees that I might perhaps later see my way clear to accept, and the matter was accordingly held in abeyance for ten years, Rathbun meanwhile becoming assistant secretary. But in 1906 I again declined for the same reasons, intensified by the calamity of the great earthquake which left me no question as to my duty. Dr. Charles D. Walcott was now chosen for the post, while Rathbun remained as executive assistant.

Within the week which followed my return to Stanford I received another pleasant surprise in the form of a book by myself almost ready for publication without my having written a line of it. This came about in an interesting way. For a year or two I had been telling a good many stories

— partly original, partly travesties on classical and other tales — to Knight and Barbara, who enjoyed them immensely. Some of our friends having spoken of these yarns to members of the Education Department interested in child-study, two graduate students (Mrs. Louise Maitland and Miss Harriet Hawley) brought a group of children to the house to hear some of the stories. They were then taken down in shorthand, after which copies were placed in the hands of scores of younger pupils in Palo Alto, Oakland, Santa Cruz, and Washington, D. C., to be illustrated by them. More than a thousand drawings were thus collected; from these, one hundred of the cleverest were prepared by Bristow Adams (then editor of *Chaparral*) for reproduction with the stories to which they belonged. In that way the volume built itself up, as it were, and on my return from Bering Sea came to me practically ready for publication.

Stories told to children

As "The Book of Knight and Barbara" it at once had a large sale, its interest lying as much in the pictures as in my fantastic text.[1] The quaintest sketches were largely by Jenkins' daughter Alice;[2] the most finished, by Seward Rathbun, son of my old friend at the Smithsonian. A little girl at Edmonton, Alberta, declared the collection to be "perfectly jake, perfectly peachy." But the little daughter of a Boston friend remarked: "What a pity they let those California children spoil this

Youthful critics

[1] Three of my tales, "How Barbara Came to Escondité," "The Little Legs That Ran Away," and "The Eagle and the Blue-tailed Skink," have given pleasure to many Stanford grandchildren, while a metrical version of the Siege of Troy has been the despair of classicists. Any one who may be interested will find all four of these fancies in Appendix F (page 701) of the present volume.

[2] Now wife of Frank W. Weymouth, a Stanford professor.

nice book!" And a Chicago child, still more critical asked if "Dr. Jordan spent his time thinking up such things as that!"

My young Chicago critic would perhaps have been better pleased with certain other things of mine that appeared in print during the course of 1896. These consisted of a number of educational addresses published in book form under the title, "The Care and Culture of Men," a phrase borrowed from Emerson's dictum that "the best political economy is the care and culture of men." This volume met with a considerable sale, especially in the reading circles of California. The plates being burned in the fire of 1906, a new edition, somewhat enlarged, was issued in 1910, the separate articles being also bound as booklets. And to anticipate a little, in 1903 I put forth another collection of essays of similar motive, entitled "The Voice of the Scholar." But while the plates and unsold copies of this work too were destroyed in 1906, it has never been reprinted.

"The Care and Culture of Men"

In 1896 I published also "The Story of the Innumerable Company." Besides the name essay afterward twice reprinted in book form, first as "The Wandering Host" and later as "The Innumerable Company," under which title the allegory is best known, this volume contains an account of the Passion Play at Oberammergau, the Spanish missions of California, the Hospice of the Great St. Bernard, the career of Ulrich von Hutten and the relation of Thoreau to John Brown.

"The Innumerable Company"

At Christmas I was called to Washington to present a preliminary report on the work of the preceding

summer, and to discuss the general situation. Meanwhile another commission under direction of the Department of State [1] was selected to deal with the diplomatic phases of the case, the American members being Foster, Hamlin, and myself, with Clark again as secretary. This group, it was arranged, would meet at Washington the following December in conjunction with representatives of Great Britain, Russia, and Japan.

Foster and Hamlin

Mr. Foster, one of our highest authorities on international law, was at the same time perhaps the most sagacious and efficient American diplomatist of his day — a man, moreover, of fine personality in other ways. Following Blaine's resignation from Harrison's Cabinet in June, 1892, he served as Secretary of State for the better part of a year. I had known him as the most distinguished graduate of Indiana University, and our relations had long been friendly. Hamlin is a well-known and popular Boston attorney. My acquaintance with him dates from our interview at Stanford the previous spring.

Conferring together, we agreed that the crux of the American case from beginning to end lay in the defense of the herd against pelagic sealing. For the major part of this, Canadian vessels from Victoria were responsible; but a large contingent went out regularly from San Francisco. The most important result of our discussion, therefore, was an effort to give our contention a better moral status, a result obtained through the passing of a law by Congress prohibiting all killing at sea by American citizens. A second statute attacked the

To end pelagic sealing

[1] The Commission of Investigation, as already implied, was responsible to the Secretary of the Treasury.

profits of the industry by forbidding the admittance of pelagic skins to the United States; this involved a system of registration of sealskin garments, burdensome to travelers but effective in depriving the Canadian sealers of their best market — a disadvantage largely offset, however, by the steady upward trend of prices in general, due to war-inflation in 1898 and 1899.

Richard Olney

In the course of my stay in Washington, I one evening dined with Richard Olney, Secretary of State, a strong, forthright man of excellent ability whom I very much admired, despite a certain disapproval of his abrupt insistence in the Venezuela matter. But at that time, as at others in the history of our relations with Britain, it may have been necessary to stand up before the Mother Country. For British diplomacy has often been based merely on the assumption that whatever Britain demands is necessarily right. In this case, however, London's claim was substantially correct, Olney's purpose being only to have the situation clarified by thorough investigation.

Being seated at Mr. Olney's right, I had the welcome opportunity of explaining to him the inside story of the Government Suit against Stanford University, a matter in which he was naturally interested. I was amused by an anecdote he related of Li Hung Chang, who had recently visited Washington on a tour of the world. "How much do you get?" asked the Oriental diplomat. "My salary is $6000," said Olney. "Yes, I know," said Li; "but how much do you *get?*"

Li Hung Chang

6

Fur Seal matters having called me again to Washington in the spring of 1897, I was present at the inauguration of McKinley, and received soon after an invitation to dinner at the White House to meet the new Cabinet. McKinley's associates impressed me less favorably as a whole than Cleveland's Cabinet, but some of them had both character and force. Secretary Long of the Navy, ex-governor of Massachusetts, by whom I sat, seemed to be a man of marked ability. Lyman J. Gage, Secretary of the Treasury, I came later to know well and to hold in high esteem. Alger of the War Department unfortunately soon had on his hands the Spanish War, involving a strain for which he was quite unfitted.

McKinley's Cabinet

John Sherman, Secretary of State, with whom I afterward had many dealings, was always interesting, although then very old and forgetful as to current happenings. It was under his general direction that our commission carried on its work, about which I had frequent interviews with him; but he often forgot why I was in Washington. His appointment as Secretary was apparently a piece of political bargaining. He had long been Senator from McKinley's own state, and the President urged him to enter the new Cabinet, "which would not be complete unless headed by the most distinguished son of Ohio." Sherman having consented, Mark Hanna, McKinley's adviser and financial backer, was promptly elected to the senatorship.

John Sherman

Sherman's inability to deal with current details (though he still held a firm grasp on principles) soon

became painfully evident, especially to his many friends. In 1897, when the annexation of Hawaii was contemplated, he assured the Japanese minister, Hoshi, — then leaving for home, — that nothing of the sort would be done, and Hoshi so cabled his home government. But before he reached Tokyo, annexation was already definitely arranged without Sherman's approval. On William R. Day, a quiet and well-informed attorney then Assistant Secretary of State, the President largely depended. At one time (as I was told on what seemed good authority) McKinley reproached Sherman for talking so freely with reporters concerning affairs in his department: "Don't you know that you are embarrassing Mr. Day?" At this Sherman broke out: "Who the devil is Mr. Day? I thought he was a clerk in my office."

McKinley and Sherman

Nevertheless, Sherman had broad views on national matters, and he was distinctly a master in finance. His relations with Lincoln had been especially intimate; nothing, moreover, gave him greater pleasure than to talk of their friendship. Soon realizing the impossibility of his position, he resigned the secretaryship, to be succeeded by Day, who, however, shortly withdrew and was afterward appointed by Roosevelt to the Supreme Court. Upon Day's resignation McKinley put John Hay at the head of the State Department, where he remained until his death in 1905.

John Hay

Hay was the most scholarly as well as the most internationally minded of all who in recent times have served our country in that position. A poet and historian of keen mind and a charming personality, he was also an efficient executive, ably

solving many tangled problems. As private secretary to Lincoln he had become thoroughly familiar with American affairs, and as minister to Vienna and later to London — from which latter post he was called to Washington — equally well versed on conditions in Europe. In 1899, accompanying McKinley to California, he made an admirable discourse at Stanford. Introducing him, and referring to his message on "the open door," I was tempted to quote — but did not — the following verses addressed to him by a veteran of the Civil War:

> I cooked a dinner in war time
> You ate and praised one day;
> You liked my work and said so,
> And I like yours, John Hay.

On this occasion McKinley was to have been the guest of the University, but detained in San José by his wife's illness, asked Hay to take his place. As a welcome for the President, Cecil Marrack, a senior student, had prepared a careful speech; this he so adroitly modified to suit the unexpected conditions as to call out a special word of praise from Hay.

Marrack's speech

It will be remembered that McKinley fell victim to the inchoate rage of a crazy anarchist, sensational journalism having fed the frenzy of the assassin who sought revenge on society by destroying its accepted head. As I said at the time:[1]

"Lessons of the Tragedy"

> There is a cowardly discontent which leads a man to blame all failure on his prosperous neighbor or on society at large —

[1] "Lessons of the Tragedy," delivered before the students of Stanford University.

as if a social system existed apart from the men who compose it. Under Democracy all violence is treason. Whosoever heaves a rock at a scab teamster, whosoever fires a shot at the President of the United States, is an enemy of the Republic, guilty of high treason. The central fact of all Democracy is agreement with the Law. It is our law and we made it. If desirable we can unmake it, but by compact of Democracy, any change must be brought about by the methods of peace and order.

We make the laws

On September 13, 1901, I stood for a moment at the corner of Market and Third streets in San Francisco, reading the posted bulletins from Washington foreshadowing McKinley's death. A little old crone of a woman, similarly engaged, remarked: "The President will die." "Yes," I answered sympathetically; "he is dying." At this she turned on me savagely: "You did it! You know you did: you look it!" She then backed off in front of a moving car and would have been instantly crushed had not a young man in naval uniform jerked her away as quick as a flash — after which they both melted into the moving crowd.

But this is to anticipate by many years, and I must now return to other matters.

CHAPTER TWENTY-THREE

I

In early June, 1897, Clark and I left for our second visit to the Pribilofs. Accompanying us this time went six scientific students as volunteer assistants: Elmer E. Farmer (afterward Elmer Creighton) and Howard S. Warren, electricians, Bristow Adams, artist, Arthur W. Greeley and Robert E. Snodgrass, zoölogists, all from Stanford; and from the University of Washington Trevor Kincaid, zoölogist. These young men were to carry out certain experiments in electric branding, and fencing-in of the young males — two schemes which had been proposed a few years before by Townsend and True. Dr. Thomas D. Wood also had joined our group with a view to special studies of his own, and Mrs. Wood and Mrs. Jordan went as far as Sitka, where the *Albatross* was held in readiness for the commission.

To Bering Sea once more

Up to that point we traveled by the excursion steamer *Queen*, passing again through the superb Alexander Archipelago. On the *Queen* we found a pleasant little company from Columbia University, led by my friend and colleague in Biology, Dr. Edmund B. Wilson. At Juneau, the largest town in Alaska and its modern capital, we met Ogilvie, a Canadian surveyor who had just come over the White Pass with marvelous stories of the discovery of gold along the Upper Yukon, in the district since known as the Klondike. Immediately a large part of the population of the town moved northward

Klondike gold

by way of Skagway or Dyea over the forbidding mountains to Lake Lindeman and Lake Labarge. Of this amazing episode I shall have more to say in connection with my own visit to the Yukon in 1903.

Muir Glacier

The culminating experience of our trip on the *Queen* was a visit to the incomparable Muir Glacier, with its glittering front of solid blue ice a mile or more across and some 500 feet high. Walking over the surface, we recalled how John Muir had traversed it with the dog Stickeen, as described in his striking tale of "A Dog and a Glacier."

Arrived at Sitka, I hit an unexpected snag. It appeared that Captain John J. Brice, then hold-over Commissioner of Fisheries, had sent peremptory orders to Captain Moser to receive on the *Albatross* no one except the commission of 1896. This action was of course intended to bar out my student assistants (who, by the way, served without pay) and to embarrass me as much as possible.

As a matter of fact, however, there was probably nothing personal about Brice's attitude. Apparently it was only part of his desultory feud with "those Smithsonian fellows." He himself was a retired naval officer without technical fitness for the position, to which, indeed, he had been appointed in disregard of the law providing that the Fish Commissioner should be a scientific expert. One of President Cleveland's few weaknesses was his distrust of scientific attainments; this had led him to appoint an untrained amateur as successor to Baird, Goode, and MacDonald.

Cleveland's idiosyncrasy

Brice's tenure of office was very short, the incoming Republican administration being quite aware

MUIR GLACIER

of his failure to meet the terms of the law. But the new standards were not appreciably higher, as the Fish Commission was listed among the spoils of office. Having some warning of this fact, I went to Mr. McKinley and made a personal appeal for the selection of some one both of scientific standing and in touch with fishery interests. The President seemed impressed by my appeal, but at last he said: "The fact is, Dr. Jordan, I have promised that place to Steve Elkins."

Bowers

In due time, therefore, Senator Elkins' man, Mr. George M. Bowers of West Virginia, was appointed. Strangely enough, however, five years later (my opinion being asked) I advised President Roosevelt and Secretary Oscar S. Straus to retain him. For although a local politician with no knowledge whatever of fisheries, Bowers had tact as well as administrative ability. He accordingly surrounded himself with good men from whom he was always ready to take advice, as well as from two others, Alexander Agassiz and myself. During his administration, Dr. Hugh M. Smith served as Assistant Commissioner and Evermann as chief Scientific Expert, having charge later of fishery interests in Alaska.

"Steve" Elkins

Elkins was an active political figure in those days, a "Stalwart" as the phrase went, a big, jolly, robust fellow not troubled with idealism. One of his former secretaries, a slender, wiry young man, told me of an amusing little incident which occurred when he was traveling on the Senator's railway pass; the train conductor having looked at the card and then at him, said: "Lord, Steve, how you have swunk!" Which reminds me of a similar story re-

lated by Vernon Kellogg. While still in the early twenties and no doubt looking even younger than he was on account of a generally boyish appearance, Kellogg served as state entomologist of Kansas. As such he carried a free railway pass about the state — forfeited, of course, if used by any one else. One conductor looked him all over and remarked forcibly: "You tell your paw he'd better look out!"

Moser to the rescue

Returning now to our dilemma at Sitka, Captain Moser settled the matter by ignoring Brice's order and falling back on instructions given by the Navy Department in 1896, to the effect that he should transport the commission to the Pribilofs and render all possible assistance. He also figured that no charge of insubordination would be brought, as the Commissioner would never venture to make his own telegram public.

An agreeable change

The difficulty being satisfactorily adjusted, we proceeded on our way. At the village of St. Paul, Kodiak Island, where we passed the night on shore, a supper of bread and milk, followed by sleep in regular beds, was much appreciated. We next steamed through the Straits past Afognak (a large island set apart by President Harrison as a Government Reservation for the breeding of salmon and sea birds) and then came to Karluk, the most important village of Kodiak, at the mouth of the Karluk, a noble salmon river, outlet of a large lake bearing the same name. Here a bitter controversy had been raging between two cannery companies, the Alaska Packers' Association and the Pacific Steam Whaling Company established across Shelikof Strait on the mainland. The situation was very

tense and seemed to warrant Kipling's assertion that

> There's never a law of God nor man runs north of fifty-three.

Indeed, more than once the heights above Karluk had been fortified by the local canners, injunctions then being laid with the rifle. *En revanche*, "Scar-faced Charley" of Chignik, a noted fighter, was sent over with his band to capture and hold the beach; for by law the right to fish belonged to whoever was actually drawing nets. This involved operating them day and night throughout the season, a system ruinous to the salmon run, as it permitted relatively few spawning individuals to ascend what had originally been the finest salmon river in the world. *War at Karluk*

Earlier that summer, while one set of men was making a haul on the beach, a rival steamer cast anchor beside the net and then moved away, tearing its web to pieces. This naturally led to reprisals; so when a larger vessel of the invading company afterward anchored off Karluk, a net was cast around it, hauling it to shore, where only capitulation saved it from wreck. But when we arrived the two corporations had arranged a truce which apparently lasted until better statutes were provided.

At Belkofski, a forlorn little Russian town on the Alaskan Peninsula, we stopped for a day, finding there a most distressing condition due to the extirpation of the Sea Otter — *Latax lutris* — practically the sole dependence of the people, who had formerly lived by the sale of its skins. This situation was the result of continuous criminal *Belkofski*

The Sea Otter

negligence on the part of our Government. When we took possession of Alaska in 1867, the Sea Otter, a unique and valuable animal, was still abundant. In early Russian times it had swarmed everywhere in the North, even ranging sparsely as far south as Point Concepcion. Up to American occupation it was taken mainly with spears by natives and only in scant-venturing skin-boats, a method not immediately ruinous. The Americans and Canadians, however, used rifles from the decks of schooners, so that very few animals escaped.

At the time of our visit the species was practically extinct about the Alaskan Peninsula[1] and the Aleuts were virtually starving, their sole remaining resource being fish, on which alone man cannot indefinitely subsist.

Much gold but no food

In strange contrast to this human wretchedness, the Russian priest showed us a golden communion service brought from Moscow in days of plenty. This the natives dared not touch, nor could they have found a market anywhere within reach. Moreover, there was nothing to buy, for when the Otter failed, the Commercial Company which had furnished staples necessarily abandoned its agencies. Elsewhere along the coast conditions were said to be even worse than at Belkofski.

A Treasury order

On my next trip to Washington I laid the matter before Secretary Gage and, at his request, drew up an order of the Treasury prohibiting the killing of Sea Otter by means of firearms, or from any vessels except canoes. Such a decree should have been

[1] Individuals were occasionally taken in out-of-the-way places in both Alaska and Kamchatka. At Bering Island, later that summer, I was offered a fresh skin for $1200.

promulgated twenty years before, when that magnificent animal was even then rapidly verging on extinction. Unfortunately, also, the Secretary's jurisdiction reached only to the three-mile limit. Shooting in the open ocean continued therefore until 1911, when a treaty to which I shall later refer brought the Sea Otter under international protection. I have recently learned from Mr. Hanna that it has increased in numbers by about 25 per cent since 1910; in his judgment, however, it will take fifty years to reëstablish the species.

Costly disregard of national resources

The tragic neglect of all national resources in our Russian Purchase led me to utter a public warning as to the future colonial policy of the United States. Under the title, "Colonial Lessons of Alaska," [1] I dealt with the evils of "governmental pathology, as exemplified in the history of Alaska." I then explained in detail the nation's disastrous neglect of the Salmon, Fur Seal, and Sea Otter, and its utter disregard for the welfare of the natives. As already stated, my paper chanced to attract the attention of Roosevelt who, after becoming President, devoted himself with characteristic energy to the betterment of conditions.

During our run from Belkofski to the Pribilofs, the only happening of note was the captain's difficulty in finding Unimak Pass in the dense fog which enveloped the islands, an incident leading us to appreciate more keenly the amazing geographical instinct of the Fur Seal.

Upon landing us at St. George, the *Albatross* returned at once to southeastern Alaska, where Moser and Townsend began an investigation of the

[1] *The Atlantic Monthly*, November, 1898.

various salmon rivers — a work resumed by Evermann and myself in 1903. A few days later the *Rush*, still at our disposal, took us over to St. Paul, where we were soon joined by Thompson and Macoun, who had arrived on the *Satellite*, a small British warship.

2

Fair weather

The summer of 1897 was notably free from storms and with more clear days than ever before recorded in Bering Sea. From St. Paul we could at times see St. George, some forty miles away, an almost unprecedented phenomenon. This was the season fortunately chosen by the amiable Duke of Abruzzi to attack the St. Elias Range and ascend Mount McKinley, the highest of its several peaks. These offer no serious difficulty other than their great height and the prevalence of storms, a menace aggravated by distance from supplies.

A new factor

The chief new feature of our second summer was Lucas' discovery of the havoc wrought by a then undescribed species of hookworm among the fur-seal pups. For this factor, however, we were partially prepared, having the year before found three or four specimens of the parasite in the dissected body of a starved individual. Those Lucas submitted to Dr. Stiles, our highest authority on parasitic worms, from whose response I quote the following:

> The few specimens which Lucas collected certainly could have been of no importance in the economy of the host, but as *Uncinaria* is a bloodsucker of the worst type, and as allied species produce serious troubles in man and dogs, analogy

would imply that a heavy infection of the seal would produce similar troubles in that host. . . . A crowded condition of the rookeries would render an epizoötic probable.

Stiles later named the Pribilof form *Uncinaria lucasi*. In a second communication he states the injuries from hookworm to be loss of blood, loss of capacity to assimilate nutriment because of inflamed tissues, and possibly the development of a specific poison. Subsequently, as I have earlier indicated, he discovered the appalling ravages of *Uncinaria duodenalis* among certain classes in our Southern states and elsewhere in warm regions and in mines.

In the adult form all species of *Uncinaria* are slender, yellowish little objects about a third of an inch long. Whatever the host, also, process and pathology are essentially the same. The minute, hair-like larva enters the body through the suckling mouth or through pores of the skin, ultimately reaching the upper part of the small intestine, to which it clings, feeding on blood and thus producing anæmia. So we soon learned to recognize, by their sluggishness and general lack of interest in life, the pups attacked by *Uncinaria;* moreover, most of those trampled to death by fighting males during the breeding season were thus afflicted. Along the great beach of Tolstoi and on Zapadni of St. Paul we collected upward of 12,000 of these worm-infected animals and burned the carcasses. But only those born and reared on the sand were affected — never those on the rocks where the rains wash away all excrement. Healthy pups are as round as footballs after the first two or three weeks, and then practically immune to trampling feet.

Attacks of Uncinaria lucasi

Losses from hookworm mainly took place before the month of August, practically all later decimation being due to slaughter of the mothers feeding at sea; as to this I may add that in 1897 some 15,000 healthy pups were starved to death. To get rid of the pest, we filled with rocks the sand areas or "death traps" on Zapadni. It was impossible to do the same on the great beach at Tolstoi; but with the continued shrinking of the herd that stretch was soon abandoned, the animals afterward confining themselves to the rocks. And recent investigators have discovered no evidences of the parasite anywhere on the islands.

Complete eradication

As already explained, a part of our plan for the second summer was to test the practicability of two suggestions (branding and fencing) made by Townsend and True in their report of 1894.

Branding

The purpose of branding was to render all skins of young females commercially valueless. To this end we made use of an electrical machine devised by Mr. Farmer; branding with hot irons was also undertaken by Murray, who had had large experience on Western cattle ranges. Both methods were successful enough, but the advantage gained seemed hardly to justify the suffering temporarily entailed on the animals themselves. Hot irons were, however, used later for the marking of individuals in order to trace their movements, and to ascertain their length of life. Concerning this particular matter, Hanna reports that females branded by Clark in 1903 appeared on the rookeries as late as 1919.

The second scheme, which proved an entire failure,

was to imprison the young males in the "Salt Lagoon" (a bottle-shaped indentation on St. Paul) during the period of pelagic sealing, and thus prevent their destruction at sea. Accordingly we drove a few thousand into the little bay, previously enclosed by a wire fence some eight feet high. After a time, however, they became uneasy and in the course of a week began to climb over — a feat which had seemed impossible with beasts so lacking in power of adaptation and so thoroughly under the control of innate tendencies, for while possessing the most highly specialized instincts they are the most unteachable of creatures. Their general intelligence — that is, their power to choose among reactions to external stimulus — had been previously tested by us in an experiment devised to separate the killables from the rest of the *holostiaki*. For this operation we provided three runways joined in the form of the letter Y, having an entrance chute only just wide enough to admit one individual at a time, and with a gate across the base of each arm. It was perfectly easy to drive the animals up to and along the lane, but, arrived at the barriers, each insisted on blindly following the one before. Nothing, in fact, would induce him to pass through an open gate if his predecessor had gone by way of a closed one, and he would stubbornly push against the latter until it was opened.

Fencing a failure

The Fur Seal's stupidity

The stupidity of the Fur Seal under these new conditions thus contrasted strongly with its infallible geographic instinct, and also with the adaptable cleverness under domestication of its nearest cousin, the Brown Sea Lion of California — *Zalophus* — which is almost as teachable as a dog.

His teachable cousin

Furthermore, on the killing grounds the young males are wholly apathetic, not paying the slightest attention to the slaughter of their comrades. And near the harems no notice is taken so long as the observer stands still. If he moves at all, however, the herd is quickly excited, the females rushing into the sea, the males angrily standing their ground. When one approaches near enough, the beachmaster makes a savage lunge; but he never pursues or moves more than a rod or so from his stand, for to leave it is perhaps never to recover it again. After the disturber comes to rest, everything quiets down, and within an hour all are back in their proper places. These facts I mention because of outcry in certain quarters against alleged "breaking up of the rookeries" by driving the animals into the water.

Short memories

On St. Paul and St. George, as already stated, our final and fairly accurate count of the pups estimated their number and therefore the number of breeding females at 129,216. I myself enumerated so many animals that I began to count endless "pods" of pups in my dreams.

On the "Satellite"

Meanwhile the *Satellite* had stayed around, sharing the duties of the patrol, and about the middle of August Thompson and I took passage in her to the Commander Islands for inspection of the Russian herds. The voyage was long and tedious, the vessel being neither swift nor luxurious. Indeed, in the British navy — so at least I was told — there is no effort to make even the commanding officer comfortable, lest he become effeminate; Captain Allen's quarters, for example, were over the screw and were extremely plain. My evenings I used to spend there

listening to his varied stories of seas and seaports. Beginning as a youth with no schooling, he had gradually risen to the command of a second-rate man-of-war. At bottom a simple-hearted and kindly man, he nevertheless gave orders in a loud voice so that "every petty officer's knees should knock together" when he strode forth on deck. "The proudest moment in his life" was when he ceased to be a subordinate and could say, "Thank God, I'm a commander!"

British discipline

On the *Satellite*, gin and whisky were much in evidence, several of the officers taking nips at intervals throughout the day. But the master gunner, one of the most competent men on board, confided to me his firm belief that serving grog to sailors — a part of his own duty — was a most mischievous custom.

Our first stop was at Nikolski on Bering Island, the larger of the two composing the Commander group. Nikolski was built by the Russian authorities to house the Aleuts employed at the Severnoye (north) Rookery, which, by the way, is the largest in any sea; being about twenty miles away, it is commonly reached by sleds drawn by noisy Siberian dogs seemingly but half tamed and very wolf-like. The little town is surpassingly gay with red, yellow, green, and blue, each house being painted in one or more rainbow tints, while on the parti-colored church no joyous hue has been overlooked.

The gay homes of Nikolski

The quaint, bright-colored shawls worn by the women caught my eye, but having bought a few of them as curiosities from a remote land, I noticed on the box from which they were taken the words

"MADE IN GERMANY." Certain foods, too, are imported, the good thick soup served by the agent in charge coming from Chicago, where it is prepared to suit the Russian taste. But the deep pies of red salmon and the *entrées* of roasted teal ducks, flanked by blueberries and molinos, were native products.

Luscious dishes

The fields about Nikolski blossomed with summer flowers — yellow anemones, blue Siberian iris, Iceland poppies, white chrysanthemums, and other specialties of the North. Reindeer, introduced from Siberia, are numerous but distressingly wild, always retreating to the next ridge beyond the observer.

The Komandorski Fur Seal was the first made known to science, the notes of Georg Wilhelm Steller, surgeon-naturalist of "Commander" Bering's voyage of 1741, having been printed by Pallas in 1811 though not distributed until 1831. At the southern end of Bering Island is Tolstoi Mys or Cape, a black headland of lava, near which the *St. Peter*, Bering's vessel, was wrecked on the return from St. Elias, and where his crew spent the winter and the Commander himself, a very large man, fell ill unto death. Steller then officially condemned the wrecked vessel, building from it a small boat in which he and the other survivors reached Petropaulski on the mainland. Of Bering's end Steller wrote as follows:

Bering's death on Tolstoi Mys

> He was (as it were) buried alive; the sand kept constantly rolling down upon him from the sides of the pit and covered his feet. At first this was removed, but finally he asked that it might remain, as it furnished him a little of the warmth he sorely needed. Soon half his body was under the sand and his comrades had to dig him out to give him a decent burial.

The fate of Steller, the discoverer of the "four great beasts" of Bering Sea, "Sea Cow, Sea Otter, Sea Lion, and Sea Bear," was even more tragic than that of Bering. Accused in Russia of some trivial offense against the Czar, he was ordered back from Kamchatka for trial. Much of the way had to be traversed in an open sleigh drawn by dogs, and one night his guard lingered in a tavern, he being asleep in the bitter cold outside, where he was at last frozen to death. Thus died in his thirty-fifth year one of the ablest of the early naturalists, leaving all his admirable work to be made known by others. *Steller's fate*

3

From Nikolski we steamed over to the sister island of Medni or Copper, anchoring first off the village of Preobrajenski on the northeast corner. Here we encountered the "willie waughs," as the sailors call them — sudden and violent gusts of wind from the jagged mountain summits, a phenomenon said to be especially characteristic of the inlets of Tierra del Fuego. From Preobrajenski we went southward along the coast to the village of Glinka, where we found the Russian official very doubtful as to whether we might be allowed to visit the rookeries at all, there being no precedents to govern the case. The situation was then discussed with Thompson over repeated glasses of *vodka*, a beverage not at all to my taste. Meanwhile I slipped out quietly, crossed the high and narrow ridge which there forms the backbone of Medni, and inspected the three prin- *Medni precedents*

cipal rookeries, returning in time to receive an official permit to make the examination.

Picturesque Glinka

The scenery about Glinka is singularly picturesque. Palata Rookery lies at the foot of a steep cliff with a fine waterfall. Beyond Palata is the smaller Zapalata, a bench of black pebbles, sheltered on the ocean side by jagged rocks. Behind rises a vertical, crescent-shaped, 500-foot lava cliff, from the edge of which the animals look as small as mice. Up there we found *Loiseleuria*, a very pretty rhododendron-like shrub resembling the Swiss *Alpenrose*.

Moser confers a boon

At Glinka, the preceding summer, Moser had had an amusing experience. Stejneger having made his visits to the rookeries, the *Albatross* put off, only to be recalled by a signal from the shore. It appeared that the natives were curious about a song very popular in Europe; its name was "Tararaboom-de-ay." Would the captain please allow the sailors to sing and whistle the tune until they could learn it? Their winter was very long and dark, and they had nothing to do except dance and play games. They had worn out all their old tunes, and were eager for a new one. The captain complying with this novel request, they contentedly returned to their seabound village with its one mail a year sent up from the distant port of Vladivostok.

Leaving Glinka, we headed straight for Unalaska; on the way I wrote my wife another poem which, as these pages are my own record of my own life, I venture to reproduce:

FUR SEALS ON OLD LANDSLIDE, PALATA

From "The Story of Matka"

Komandorski

Sail I o'er the icy sea
Where the twin Storm-Islands be,
In a British man-o'-war
(Cold and hard her bulwarks are)
Far to where the haughty North
Sends his eager minions forth
Tugging at the tawny manes
Of deep-sunken mountain chains,
Great ships greeting with a laugh,
Tossing them about like chaff;
Never they since tides began
Tamed to let or call of man.

Komandorski, grim, defiant,
Stands before them like a giant,
Flinging to the Ocean Chiefs
The stern gauntlet of his reefs.

Crest on crest redoubtable,
Prone at Tolstoi's feet they fall,
And their haughty hosts become
Impotent in angry foam;
While the sea-mists, cold and gray,
Whirl their shredded ghosts away
High to where the storm-clouds be,
The Valhalla of the Sea!

And I watch them as I lie,
Tossing ever helplessly,
In the British man-o'-war
(Cold as steel her bulwarks are).
Through the porthole from the shore
Comes the deep, sonorous roar,
As on Bering's reefs the surges
Chant the great Commander's dirges.

Then, within the sordid gloom
Of my little cabin-room —
All at once — a presence rare

Lights the unexpectant air.
Thou art gazing full at me,
Thou who art the world to me;
Eyes I have the right to miss,
Lips I have the right to kiss;
All that generous Life has brought me,
All there is sweet Love has taught me
Smiles at me from yonder wall —
Glances, smiles, and that is all!

What to me the haughty North?
What his minions rushing forth?
What the huge inchoate ghosts
Of his ever vanquished host?
What the mighty battle-shocks
On grim Komandorski's rocks?
What the moaning of the sea,
Troubled from eternity?
What though cold the bulwarks are
In the British man-o'-war?
Thou, dear heart, hast been with me!
Thou who art the world to me!
What sweet necromancy brought
Thus the vision of my thought
O'er these thousand leagues at sea?

Thus it chanced — in gathering night
Just one wisp of rosy light,
Strayed from — none can tell you where —
Through the tangling ghosts of air,
From some sunset, it may be,
On the far Kamchatkan Sea,
Through the trailing robes and gray
Of the mists along its way,
Till it, slant and flutteringly,
Fell athwart my porthole here,
Rested on thy picture, dear.

And I bless the wisp of light,
And I bless thy sweet Good Night!

Having passed a monotonous week, we were much relieved to enter the shelter of Unalaska Island, the first landmark of which is the tall cascade of Cape Cheerful. This encouraging name suggested a bit of verse for the absent children, and as introduction I wrote an imaginary extract from Cook's log-book of 1778:

Poetic inspiration

CAPE CHEERFUL

"When you shall come to a great cliff standing northward from Makushin the Volcano, and rent almost from base to summit and from the midst of which leaps the tumultuous Waterfall sheer into the Sea, then, the fog lifting, you will leave the cliff well to Starboard, and enter a land-locked haven called 'Captain's Harbor,' for that I did once ride out the winter there. Whence is this Headland with the Waterfall called 'Cape Cheerful.'"

Homeward bound from the Storm-Islands, through the sullen
Icy Sea,
On our lee
Rise the savage, swart Smoke-Islands, which defy
Sea and Sky,
Hurling back the waves insistent from their boulder-cumbered
shore,
Evermore;

As though shattering the cloud-rack, dark and tall,
Like a wall,
And the twin Smoke-Islands vanish as a specter of the night
From our sight,
While the ship still plunges onward, fog-bound in the Icy Sea.
Suddenly,

As the light is slowly failing, — the long twilight of the North, —
Rises forth,
As though shattering the cloud-rack, dark and tall,
The granite wall
Of the shapeless huge Moss-Island with her earthquake-riven
cliff;
Through the rift,

Like a swift-spun skein of silver springs intact
The cataract,
From the riven lava buttress far into the Icy Sea;
Joyfully
Does it join the tumbling billows, while its spray
Drifts away
With the east wind to the leeward. Banished now is every fear
All is clear;
For we know the Cape called Cheerful, and it tells the haven
near.

Like the fog-bound northern ocean is the weary course of life
Doubt and strife
Hide the way I fain would follow; can I know
What to do?
Slowly down my path I wander, sore perplexed,
Spirit-vexed,
By the cloud-rack of conventions o'er us all
Like a pall.
Thus, with downcast eyes and somber, come I to the garden
gate;
Swift and straight,
Leaping from a bank of roses, like a fetterless cascade,
Unafraid,
Rush the children forth to greet me, with a joyous shout of cheer
Banished now is all convention, all vexation and contention
All is clear;
I have found the "Cape called Cheerful," and I know the haven
near.

Sending for the mail

At Unalaska they transferred us to the *Pheasant* another small British warship, on which we returned to St. Paul. Arriving there and finding no letter either from home or from the State Department, sent the *Rush* back to Sitka, a distance of some 1200 miles, for the mail.

Captain Cyrus L. Hooper, a brave and loya officer, then commanded the Bering Sea Patrol com

posed of the three revenue cutters, *Rush*, *Perry*, and *Corwin*.[1] The duty of this little flotilla was to see that the Canadian sealing-fleet broke none of the provisions of the Paris Tribunal of 1893. To this end they were directed by our Government to overhaul schooners out at sea and open up the barrels of salted skins to find out if they bore indication of having been put down before the end of the closed season. Such inspections, carried out hastily in rough weather, were very irksome to both parties; and the unavoidable scattering of skins about the deck naturally made the operation doubly distasteful to the Canadians. Furthermore, I believe the whole operation to have been contrary to international law.

Hooper's tact and wisdom

Dealing with these delicate and complicated matters, Captain Hooper was always patient, considerate, and just, so that his decisions, rendered as a sort of Court of Appeal at Unalaska, won the respect of all concerned in the acrid controversy. Being afterward transferred to the United States Navy, it was his fortune to bring Aguinaldo, the Filipino leader, back from Hongkong, whither he had been banished by the Spanish governor at Manila. And knowing all the facts, Hooper believed that the Filipino War (which followed the conclusion of peace with Spain) could have been avoided by the exercise of tact and consideration toward Aguinaldo.

On each of the two cutters under my immediate direction was a young officer in whom I took a

[1] The *Corwin*, under the noted Captain Healy, had then been assigned to the relief of whalers in the farther North.

personal interest — Lieutenant William L. Maxwell of the *Rush*, and Lieutenant Worth G. Ross of the *Perry*. Maxwell had been a member of the Pioneer Class at Stanford, though he left to enter the Revenue Service, afterward amalgamated with the Navy during the war. Just twenty years later he helped train my son Knight for his commission in the naval reserve.

A master seaman

Ross, who rose to be chief of the Revenue Service, possessed extraordinary skill in sleight-of-hand. One day at table he explained to Captain Allen, our dinner guest, how American sailors spliced ropes. Taking a length, cutting it in two, and then making several passes over it, he apparently displayed a perfectly mended piece. Allen took the trick at its face value, though evidently puzzled as to how it had been done.

Toward the middle of September, university affairs demanding my presence, I left St. Paul on the *Rush* somewhat in advance of the others. This time the passage was smooth and with but one incident worth recalling. As we approached Cape Flattery at the mouth of the Straits of Juan de Fuca, a dense fog shut down so that we could neither see the headland nor hear the loud horn on Tatoosh Island. When the mist lifted suddenly, the boat was almost on the rocks, and the horn loudly audible. Having reported this incident to the lighthouse board, I was courteously informed that varying layers of fog at times blanketed sound — a phenomenon by no means peculiar to Cape Flattery.

Fog as a blanket to sound

Arrived at Seattle, I was astounded at the amount and contents of the correspondence unwittingly

provoked during my absence. Before leaving for the North I had written what seemed to me a bit of gentle satire[1] directed at certain assertions concerning the supremacy, without intervening agencies, of mind over matter. My article was illustrated by spurious experiments in mental photography, suggested by several "fakes" then appearing in the current press. In it, by way of ridiculing current claims to the photographing of mental images by turning the camera on the eye, I imagined a *sympsychograph* ("composite-soul-picture") with a lens of many facets (like a fly's eye) from each of which an electrical connection ran to the eye of every individual in a group of people engaged in framing an "intensive mental image" of a cat. The photograph assumed to have resulted from this process was very striking — a comfortable cat at rest, with various shadowy feline faces in the background. As a matter of fact, Professor Sanford had made for me a composite of several negatives of the pet of Roble Hall.

Trying to be funny

The Roble cat

The satirical nature of my story I had supposed sufficiently clear, especially my proposition similarly to photograph "the cat's idea of man." But the scientific minuteness of detail proved to be fatally complete, and a surprising number of people took the thing seriously. One clergyman even went so far as to announce a series of six discourses on "the Lesson of the Sympsychograph," while many others welcomed the alleged discovery as verifying what they had long believed, and an eminent professor soberly opined that my reputation as a psy-

Fatal detail

[1] "The Sympsychograph: A Study in Impressionist Physics"; *Popular Science Monthly*, September, 1897.

chologist would not be enhanced by such discoveries!

The excellent editor of *The Popular Science Monthly*, William Jay Youmans, was at his wit's end to explain my pleasantry, which he had himself thoroughly understood and enjoyed; he therefore wired me frantically for an authoritative statement of what I was "driving at." But I had simply meant to have a quiet laugh at certain absurdities heralded as science. The experience, however, taught me two lessons: first, that very few people ever read a sensational article through to the end, even much beyond pictures and headlines, and second, that with Dr. Holmes, I should never again "dare to write as funny as I can."

A frantic editor

Yet in further "Proceedings of the Astral Club of Alcalde" I undertook to expose various freak notions of pretended science and philosophy. These papers comprise "The Posthom Phantom: A study in the Spontaneous Activity of Shadows"; "The Teaching of Neminism," an exposition of the thesis *nihil nemini nocet* or "nothing hurts nobody," the assumed motto of a certain school of medicine; "The Plane of Ether," a theosophical analysis of the way to Nirvana; and "Rescue Work in History," a contribution to the theory that time and space are purely relative. To the group of doctrines satirized in these essays I gave the name of Sciosophy — that is, "shadow wisdom."

"Sciosophy"

An interesting sciosophic phantom of those days, "The Silent City of the Muir Glacier," commanded the attention of tourists in the North. Over the surface of the majestic ice-mass as it descends from Mount Fairweather there hovered at intervals,

according to one Willoughby, a local woodsman, the mirage of a great city which he had, in fact, succeeded in photographing. Among the many buyers of the picture there was much speculation as to the origin of the apparition; was it Montreal, strangely brought into the line of vision, or some cathedral town in the unexplored fastness of the St. Elias range, or perhaps a glimpse of the Holy City itself? But the next year Gilbert, being in Alaska, looked up Willoughby, who it then appeared knew absolutely nothing of photography. The picture, moreover, was at once recognized by Professor Hudson of Stanford as having been made from a faded negative of Bristol, England, his former home.

A profitable hoax

Upon my return to the University I received the report of an expedition I had sent to Guadalupe, a rocky, uninhabited, and unprotected island off the northwest coast of Mexico, from which Townsend, some years before, secured four skulls of a Fur Seal of Antarctic type, named (by Dr. Merriam) *Arctocephalus townsendi*. Guadalupe, we knew, had been freely raided from Enseñada and San Diego, but it was hoped that some animals might still exist there. A steamer of the Coast and Geodetic Survey had accordingly been detailed for an investigation conducted by Professors Thoburn and Green. A thorough search by the members of this expedition disclosed many items of interest, especially the spread of a flock of goats introduced at some time or other, but no traces of Fur Seal were found, and *townsendi* must therefore be regarded as extinct.

Fur Seals extinct on Guadalupe Island

4

The diplomatic commission

In December, the Joint Diplomatic Commission provided for a year before and composed of British, Russian, Japanese, and American representatives, convened at Washington. Great Britain's delegates were Thompson and Macoun, though Sir Wilfrid Laurier, premier of Canada, and Sir Louis Davies, Solicitor General, had come from Ottawa to assist as advisers. The Japanese delegation was headed by Dr. Kakichi Mitsukuri, a distinguished scholar holding degrees from both Yale and Johns Hopkins, then dean of the College of Science in the Imperial University of Tokyo. Associated with him was Shiro Fujita of the Japanese Department of Agriculture. Russia was represented by two men from her local embassy — Messrs. Pierre Botkin and Gregoire de Wollant; their rôle, however, was mainly to agree with us, Russian interests being identical with those of the United States, entrusted (as I have said) to Foster, Hamlin, and myself.

With the British members we had frequent conferences, and with the Japanese group as well. But for some reason, obscure at the time, in spite of the fact that most of us lived at the Shoreham, we could never bring about a joint meeting of the British delegation and the other two, as on the days set for such a conference Macoun always happened to be out of town.

Finding it then impossible to arrange for a general treaty involving the four nations, the American commission secured — and without difficulty — the signatures of Japan and Russia to a special treaty which, when accepted by Great Britain also, would

JOINT BRITISH-AMERICAN DIPLOMATIC COMMISSION, 1897–98

From left to right: Venning, Foster, Thompson, Laurier, Hamlin, Jordan, Davies, Macoun, Adam, Clark

abolish pelagic sealing and thus preserve the Fur Seal herds. British assent, however, though never refused, was never given — the reason assigned for delay being that protection had become relatively unimportant because the depletion of the herd had rendered land-killing and sea-killing alike unprofitable. At the time, that statement was practically true, — as we all agreed, — but very soon a general rise in prices due in part to scarcity of furs, in part to world-wide causes, made sealing again remunerative, as I have already explained. Moreover, nothing short of adequate protection would ever restore the herd; and now, we urged, was the time to give it.

British reluctance

Gradually, however, it became evident that Great Britain was only a nominal agent, always awaiting Canada's initiative in the affair; and Canada herself would do nothing unless and until her joint interest with the United States should be recognized. As to this we Americans hesitated, our Government being still unwilling to admit that by the Paris Award the United States had lost all legal claim to ownership of the Pribilof herd, although necessarily held responsible for its protection on land.

Our predicament

Our only possible appeal, therefore, was in behalf of the animals, threatened with extinction because no nation legally owned them, while the conditions positively demanded that some one country be at all times charged with their defense both on land and sea. The conviction thus grew on me that the sole way out was to admit Canada to some kind of partnership, an arrangement which I accordingly urged more than once. This could be brought about

A way out in either one of two ways: (*a*) by the cession to Canada of St. George, the smaller of the two Pribilofs, or (*b*) by the assignment to her of a definite percentage of the yearly catch.

To the first proposition it was objected, and with probable truth, that "America would never consent to haul down the flag before the British Lion anywhere." Against the second some argued that sharing of proceeds would be interpreted as "payment of tribute to Britain," which again our people would repudiate.

Fresh complications Before any final decision had been reached, a new and most alarming element was injected into the controversy. For some years past, Japanese schooners had harassed the Russian herd in its winter migration off the east coast of Japan. Later, and aided by government subsidies, they invaded Bering Sea — first attacking the Commander herds in the open ocean, afterward crossing to the Pribilof feeding-grounds. Moreover, as Japan had had no part in the Paris Tribunal or its Award, her sealers now began to disregard the sixty-mile limit and the closed seasons respected by the Canadians. They next ignored even the three-mile limit provided in general international law, hovering close about the islands, and especially around the great Vostochni Rookery. Finally, in utter defiance of decency as well as of law, they landed on Vostochni and began killing right and left within the harems — an insolent move which resulted in a sort of desultory fight between them and the Aleuts led by Walter I. Lembkey, the courageous and efficient chief agent.

Vostochni invaded

Such wanton invasion of American territory was

tantamount to an act of war, and the subsidy given by the Japanese Government an unfriendly act pardonable only on the ground of ignorance. The whole affair, therefore, tended to bring the long-drawn-out controversy to a head, for it put Canada as well as the United States on the defensive, and ultimately led to the admirable protective treaty signed by all four nations on December 15, 1911, with which I shall shortly deal.

Sir Wilfrid Laurier

It was early in 1898, during the joint conference, that I first met Laurier. A man of most charming address, lovable character, and keen mind, a very able and interesting personality, in face and figure he seemed a child of fortune; or to put it somewhat differently, he looked like a particularly handsome, amiable French priest. In his public career he showed both courage and firmness, and after the political reaction of some years later, held his own as progressive leader of the Canadian Liberals.

Kakichi Mitsukuri and his strange offering

My respect for Mitsukuri grew with every day, as I found him always just, thoughtful, and unprejudiced; moreover, in our scientific tastes we had much in common. As a special offering he had brought me a young specimen of the *teguzame* or goblin shark, a most extraordinary and fantastic fish with a long, flat blade at the end of the snout like that of the Mississippi River paddlefish — *Polyodon* — but wholly different from any other living shark. It proved of great interest to paleontologists as it belongs to a type — *Scapanorhynchus* — supposed to have become extinct with the Eocene, and to it I gave the generic name of *Mitsukurina.*

Foster calls on me for a speech

Foster was at that time a leading advocate of international arbitration. On the day following our last session he convened a public meeting in the interest of that cause. I sympathized fully with his views, but I was nevertheless somewhat taken aback when he called on me without previous warning, and as the first speaker. However, I touched on the matter that immediately came to my mind — the need of surrounding an arbitral tribunal with all the safeguards found necessary in the highest courts of a nation. Cases under adjudication, for example, must be "agreed cases," — that is, with the pertinent facts already admitted by both contestants, — or else the fullest precautions against perjury should be provided. Even at the Paris Tribunal perjured affidavits were presented; and Lord Russell, the British chief counsel, did not scruple to interrupt his final plea by the introduction of new evidence — a procedure contrary to court practice. In conclusion I urged that the proposed International Tribunal be made the court of highest appeal, elevated above all suspicion of intrigue or favoritism.

That informal talk was the first of the many addresses I have given in behalf of arbitration, a society of nations, and the abolition of military force as an argument in economics or politics.

5

In the fall of this year the Government completed its publication of the four large volumes of the report by myself and associates on the Fur Seal, — its habits, history, and political relations, — with

special monographs on the animals and plants of the Pribilof and Commander islands. The American commission, as such, was now dissolved, further discussion being turned over to the Department of State under (successively) Hay, Root, and Knox. Meanwhile Charles Nagel, the efficient Secretary of Commerce under Mr. Taft, organized a Fur Seal Advisory Board serving without pay and composed of all the scientific experts who had ever been sent to the Pribilofs, an arrangement which lasted through the Roosevelt and Taft administrations. *Fur Seal report*

The final treaty, that of 1911 (in which I had no direct part), provided, in brief, that up to 1926 the United States and Russia, in return for the abandonment of pelagic sealing by Canada and Japan, should each pay yearly to each of the just-named countries, 15 per cent of their receipts from land-killing. For the protection of Robben Island, already ceded by Russia to Japan, the latter was to yield to the former 10 per cent of her receipts — the same also to Canada and the United States. The provisions of this treaty were, I believe, equitable, everything considered. Through their operation the herd was preserved safe for fifteen years at least, and I trust permanently — a renewal in 1927 being to the interest of all legitimately concerned. *Treaty of 1911*

Credit for the negotiation of the treaty should be given primarily to Secretary Nagel, who was, however, ably assisted by Evermann and Clark, and in some degree by all the members of the scientific committees of investigation. In a recent personal letter to me, Mr. Nagel himself lays special stress on the help received from Mr. Knox, then Secretary *Credit where credit is due*

of State, citing this as an example of mutual aid between governmental departments.

Having signed, Japan and Canada at once recalled their sealers and paid them for their boats.[1] (I must here explain that Canada had now acquired the right to make treaties on her own account, free from Great Britain's nominal control.) As a result of protection, the number of breeding females — which by 1910 had dropped to 43,399 — rose in 1916 to 116,977, in 1918 to 157,172, and in 1920 to 167,527. With continued care there is no evident limit to the possible increase, food and rookery-space being of the amplest.

Efforts to neutralize the treaty

But certain interests opposed to settlement by no means gave up the fight. Through their efforts an order was promulgated, limiting for five years the land-killing of superfluous males to about 4000 — the bare number necessary to provide the Aleuts with food — although upward of 15,000 could have been safely or even advantageously taken. It was further required that at least 5000 three-year-old males should each year be definitely reserved. This limitation was of course absurd in connection with the other provisions, for some thousands would inevitably escape, and no practicable degree of killing could endanger the necessary stock of males, as had been already demonstrated on the Russian islands, where the killing was continuously far more drastic than any ever attempted on the Pribilofs.[2]

One unacknowledged motive behind reduction in

[1] A procedure costing the Japanese Government about $252,000.

[2] It should be added that in 1918 the yearly quota of killables was raised to 35,000, and orders were issued to kill 7000 of the idle bulls which had carried on constant warfare with their more fortunate brothers.

land-killing seems to have been to induce Canada and Japan to abrogate the treaty on the ground that by the new limitation they would each receive only about $20,000 a year instead of the $200,000 (more or less) which they had reason to expect when negotiations were concluded. It will, of course, be understood that the treaty once dishonored, pelagic sealing would then have gone on unchecked, and with increasingly disastrous results. But in the confusion of world war, the whole matter seemed to drop out of notice; and the protests naturally to be expected from the two countries never materialized, so far as I know. Normal killing having now been resumed, the annual receipts of Canada and Japan are individually (1920) not far from $500,000. That enormous increase is, however, largely due to the rise in fur values, resulting from an inordinate demand for luxuries and the thinning-out or extirpation of other fur-bearing animals.[1]

Menace of unchecked pelagic sealing

The campaign of obstruction took on two aspects — one apparently humanitarian, condemning the slaughter of wild creatures; the other the old baseless clamor that reduction of the breeding herd was largely due to land-killing of males.[2] Nagel took no

Unsound reasoning

[1] In 1918, 34,890 salted undressed skins which had been taken in 1917 were sold at auction for $46.34 apiece; in 1919, 27,821 skins brought $78.38 apiece; at St. Louis, February 2, 1920, 9100 skins averaged $140.98 each, or a total of $1,182,905. By 1925 it may be possible to obtain, and without injury to the herd, 100,000 skins yearly, as in the early '80's; these should be worth between $5,000,000, and $10,000,000.

[2] More discreditable, because underhanded, were the attacks by a well-known lobbyist on Clark, who, as secretary of the two commissions and later scientific expert in charge of the herd, had become the unquestioned authority on the Fur Seal. These slurs took the form of abusive letters over assumed names, addressed to the press and to various individuals with whom Clark was connected, the trustees of Stanford University, and even "Greek-letter" groups among the students. Of course no one familiar with his sterling integrity paid the slightest attention to the slanders, although he himself was naturally pained by them.

stock in these arguments, but his successor, William C. Redfield, seemed to accept them uncritically. And yet every scientific expert who studied the situation, steadfast lovers of wild life though all were, persistently urged the killing of superfluous males.

Killing of superfluous males a necessity

For this there were two reasons already amply implied. The first was that if the herds ceased to yield economic return, no nation would undertake the cost of guarding them, and without protection both on land and sea the most interesting species of marine animals would soon be exterminated by illicit raids. Unfortunately, most of the herds of the related Antarctic genus — *Arctocephalus* — have suffered that fate as well as the small but interesting herd of Guadalupe Island, previously mentioned, and the three small herds of the Kuriles. A second reason, also important, was that many females and young are killed or injured in the constant forays of idle bulls. For, as I have said, the sexes being numerically equal, males are vastly in excess of the needs of the polygamous herd.[1]

[1] Hanna's record for 1916 shows that 2482 pups, 79 cows, and 12 bulls were killed in the raids of that year. Casualties in 1912 (before the number of bulls had unduly increased) amounted to 1060 pups, 27 cows, and 3 bulls. As to this Clark observes:

"The deaths in 1912 were what might be considered normal and inevitable. In that season there were only 113 idle bulls, and the fighting was a negligible factor. The deaths occurred as a result of accidents inherent in the crowded condition of harem life. In 1916, however, we find the deaths among bulls quadrupled; among cows, almost trebled, and among pups increased 134 per cent. Moreover, this is with only between two and three thousand idle bulls. What will be the result when the 60,000 to 70,000 idle bulls begin six to eight years hence to bring their pressure to bear upon the breeding grounds? . . .

"The bull fur seal is an animal of about 500 pounds' weight; his mates are animals of 80 pounds' weight; the pup at birth is a weak thing of 12 pounds. The harem life of the seals is crowded at best and subject to commotion. The mother seal takes no thought of the time and place of labor. Newly born pups are trampled and smothered under the best of circumstances. Anything which

The incoming Secretary, ignoring previous reports, now sent up another scientific commission, selected by the National Academy of Sciences, the Secretary of Agriculture, and the Secretary of the Smithsonian Institution. These gentlemen were instructed to investigate the whole matter anew, avoiding the bias of all earlier opinions. The men chosen — Professor George H. Parker of Harvard, Wilfred H. Osgood of the Field Museum, a former student of mine, and Edward A. Preble of the Department of Agriculture — were wholly competent. Their carefully prepared report agreed in every respect with the findings of previous commissions, but Redfield paid no attention to its recommendations.

Value of expert knowledge

I need go no further into these details. They afford but one more example of the failure of a certain class of officials to take advantage of expert knowledge. The United States employs many scientific men of the first rank, always ready to serve the public interest. And to repeat explicitly: from 1891 to the present time, more than a dozen naturalists of highest standing, — Merriam, Mendenhall, Evermann, True, Townsend, Stejneger, Lucas, Clark, Hahn, Parker, Osgood, Preble, Hanna, and Heath, — besides several competent younger men, — Greeley, Snodgrass, Kincaid, Adams, Farmer, Warren, and Chichester, — sent at intervals to the

creates turmoil and fighting in the vicinity of the breeding grounds is necessarily fraught with danger to the young. Fighting among the bulls arises from attempts by idle bulls to steal cows from their more successful neighbors. In these contests cows are torn and injured and pups trampled. . . ."

The fur-seal herds have abundant room for extension, and the food supply is ample. The only known natural checks to the indefinite extension of the herds lie in the fighting of the males, the possible spread of the hookworm in sandy areas, and in occasional attacks of the Great Killer or *Orca*, a large, swift, and voracious kind of porpoise.

Pribilofs for purposes of investigation, have been in full agreement on every matter of importance.

Continuous observation

For the last eight or ten years the present Commissioner of Fisheries, Dr. Hugh M. Smith, has found it possible to place the herd for scientific observation under the successive control of Clark, Harold Heath (a Stanford professor of Zoölogy), and Hanna.[1]

[1] As these pages are sent to the press, I have received from Mr. Hanna the following:

RECAPITULATION OF ALASKA FUR-SEAL CENSUS IN 1920

Pups	167,527
Cows	167,527
Harem Bulls	4,066
Idle Bulls	1,161
Yearling Females	51,081
Yearling Males	51,074
2-year-old Females	39,480
2-year-old Males	38,112
3-year-old Males	12,622
4-year-old Males	5,850
5-year-old Males	4,554
6-year-old Males	2,510
7-year-old Males and over (surplus bulls)	3,330
Total	548,894
Killables, taken for skins	28,418
	577,312

CHAPTER TWENTY-FOUR

I

EARLY in 1898 agitation for war with Spain, which had been simmering for some time, began to grow insistent. In New York a group of wealthy men were said to be financing the so-called "Cuban Junta" and promoting filibuster expeditions and interior disturbances in Cuba. Thus the local situation, already wretched at the best, was further aggravated from the outside. Meanwhile the impotent Spanish Government had left to General Weyler, a coarse and brutal militarist of a type now more familiar, the responsibility of putting down insurrections. Weyler's force being inadequate, he adopted the *reconcentrado* plan of dealing with the people; that is, gathering them in great camps necessarily unsanitary and so inimical to health — upon which our "yellow press" made the most of atrocities, actual and invented, to inflame the American people.

Atrocities in Cuba

At this juncture, General Stewart L. Woodford went to Spain as special envoy instructed to secure a rational settlement of the Cuban situation. This he succeeded in arranging, as I shall later explain, in spite of the fact that Spain was well aware of the existence in America of strong financial interests working for the annexation of the island. Indeed, a well-known capitalist of New York once told me boastingly that he brought on the Spanish-American War by personally furnishing the Junta with money for the insurgents!

A special envoy

Sinking of the "Maine"

At a critical moment, the sinking in Havana harbor of the *Maine*, United States man-of-war, brought matters to a head; yet I doubt if any well-informed person ever believed the Spanish Government to be party to such a suicidal act. Moreover, the public has never known whether the explosion was due to internal or external causes. But in any case it gave great impetus to the war spirit in the United States, although the body of our people still hoped for peace.

Meanwhile Woodford had negotiated a treaty whereby Cuba was to receive autonomy much like that of Canada, and all outstanding differences, including the affair of the *Maine*, were to be settled by arbitration. Sensational papers, however, still called loudly for war. McKinley was evidently reluctant to yield, but his weakness as well as his strength lay in "holding an ear to the ground"—in other words, in leading wherever the people seemed willing to push him. And as I was told, three Republican senators, Hanna, Elkins, and one other, went to him, saying (in substance):

McKinley's advisers

> The people demand war, they are ready for it and expect it. If the Republican Party does not deliver it, the coming election will certainly put Bryan in the presidential chair, a result which will mean national disaster through the remonetization of silver, cutting the value of every security in two by substituting a silver for a gold basis.

These plausible considerations turned the scale, and in his message to Congress the President practically left that body no alternative except to declare war. As a matter of historical fact, when an executive pronounces for it, the legislative body

always follows — if for no other reason, to present a solid front.

Shortly after his return from Spain I met General Woodford at the Hotel Willard in Washington. We had been fellow trustees at Cornell, and he spoke his mind freely; he was extremely distressed and humiliated. Successful in the mission assigned him, he had opened the way to an honorable settlement which would have relieved Cuba and averted war. Yet at the critical moment his country discredited him, and the Spanish believed he had been merely tricking them with suggestions of friendship and peace.[1]

Woodford unfairly discredited

To the American people at large our conflict with Spain seemed wholly altruistic. It was, nevertheless, foisted on us by commercial and political interests

[1] Some years later I published a statement of this matter in the New York *Times*. One of its readers having denied the accuracy of my account in a letter to the paper, his communication drew forth the following, dated New York City, April 17, 1915, from a former member of the State Department:

"To the Editor of the New York *Times:*

"David Starr Jordan and Richard Barry are right and Herbert W. Bowen is wrong in regard to the statement of the former that General Woodford believed that the war with Spain could have been averted. At a dinner given in honor of Leo Tolstoy's seventieth birthday in this city about Sept. 1, 1898, General Woodford was present, and spoke briefly on the conditions that had led up to the war with Spain. A report of his remarks was published in the *Critic*, and while I have not a copy of that publication, with the acçount of the Tolstoy dinner, at hand, I recall distinctly that General Woodford stated that the Spanish Government did not want war, and that in his opinion the war could have been avoided.

"Mr. Bowen's letter reminds me that it is just twenty-two years ago this month that, while acting as editor (or reviser) of the United States Consular Reports, I had occasion to put in shape a thrilling monograph on 'Poultry Raising in Spain' by the United States consul at Barcelona, in which it was stated that hens in that consular district were frequently attacked by some obscure disease, which, said the report, was 'followed by their subsequent decease.'

"Mr. Bowen's knowledge of hen afflictions is evidently more exact than are his recollections of General Woodford's views regarding the war with Spain.

(signed) "WHIDDEN GRAHAM"

at a sacrifice of national honor humiliating to every one acquainted with the facts. Documents dealing with the origin of the war were afterward printed, but too late to have any current relevance, for the affair being over, very few have gone to the trouble of reading them.

Dewey at Manila

The battle of Manila Bay took place on May 1, 1898, and everywhere the press acclaimed Dewey's great victory, placing it in the front rank of notable achievements. On the evening of May 2, I was to speak in Metropolitan Hall, San Francisco, on an educational subject. Asking permission of the audience to discuss instead the risks which might follow our success, I took as the title of my address Kipling's phrase, "Lest We Forget."

"Lest we forget!"

There was great danger, I said, that in easy victory we might lose sight of the basal principles of this Republic, a coöperative association in which "all just powers are derived from the consent of the governed." The temptation would then be to hold Cuba and the Philippines, not as self-governing parts of the nation but as districts to be dominated and exploited. Such a policy would be imperialistic, and to carry it out our democracy must necessarily depart from its best principles and traditions. If we ruled the Philippines, to that same degree the Philippines would rule us; if we held them as conquered territory, we should be committing the folly and crime which has always lain at the foundation of empire, and which is the cause of its ultimate disintegration everywhere.[1]

The Spanish War actually under way, I refrained from public criticism, as I believe the time to oppose what seems a wrong policy is before its adoption, and furthermore, I would put no obstacle in the way of men engaged in loyal service. After the treaty

[1] See Appendix D for extracts from this address. There also will be found the manifesto of the Anti-Imperialists, of which honorable group I was a member.

with Spain, however, I spoke several times, and occasionally wrote articles arguing that we should let the Philippines go unless we meant to incorporate them into the United States, with ultimately the same rights as those possessed by the other members. I also ventured to say that if in the end our country occupied an honorable position it would be because leaders of a different type had gained control — which indeed proved to be the case.

Anti-imperialism

The conclusion of the Spanish War left Cuba independent although under our direction, while on the other hand entire sovereignty of the Philippines was ceded to the United States, in consideration of which transfer we paid Spain $20,000,000. But the wishes of the Filipino people having been in no way regarded, they made a strenuous resistance under Aguinaldo, their recognized leader; and it was only after a long and bloody struggle that they were compelled to submit.

See Mark Twain: "To a Person Sitting in Darkness"

American control being then fully established, every effort was made for the betterment of conditions. To this end the United States has expended its energies in sanitation, education, agriculture, and scientific investigation, receiving practically no financial returns. No colonial dependency of any other nation has ever been treated with the intelligence and devotion characterizing our civilian staff in the Philippines. Meanwhile the people themselves have been granted an increasingly large share in the local government. It therefore seems not impossible that in a relatively near future the islands may form a self-governing state within the American republic or, if they prefer, a self-determining nation outside.

Democracy turned imperialist

Nevertheless, the dangers indicated in my address after Dewey's victory proved to be very real. The country was flooded with arguments for "expansion," and the once-abhorred word "imperialism" was received with great enthusiasm by the press and a majority of our citizens as a glorious slogan. It was then that my own mind began to turn more directly to matters of government — national, international, and municipal. My conception of democracy had always implied self-government, but more and more I now came to realize the truth of Lincoln's words, so easily forgotten under political temptation: "No people is good enough to govern another against its will." [1]

Eugenic studies

During this period, also, I first began to study seriously the effect of war on the human breed, the constant elimination of the strong and brave, as well as of the bully and the soldier of fortune, a matter only briefly indicated by Darwin and Spencer, although the actual fact of the reversal of human selection through militarism and war was most tersely stated by the former in 1871 in "The Descent of Man":

Darwin on war selection

> In every country in which a standing army is kept up, the fairest young men are taken to the conscription camp and there enlisted. They are thus exposed to early death during war and are often tempted into vice and are prevented from marrying during the prime of life. On the other hand, the shorter and feebler men with poor constitutions are left at home and consequently have a better chance of marrying and propagating their kind.

[1] "Imperial Democracy," published in 1899, contains six of my addresses of that and the previous year: "Lest We Forget," "A Blind Man's Holiday," "The Captain Sleeps," "Colonial Lessons of Alaska," "A Continuing City," and "The Last of the Puritans."

In more recent years, amplifying this text, I have made it the basis of an insistent indictment of the War System. For I was able to collect much evidence that "the man who is left" in the vicissitudes of history stamps his qualities on the future of the race, and that the only source of racial degeneration lies in reversed selection, the weeding out of the best. On this topic and its implications I gave numerous lectures in America, Europe, and Japan.

"The Blood of the Nation"

In 1902 I wrote out the substance of one of these addresses, which was published by the Beacon Press in Boston as "The Blood of the Nation." In 1906 I prepared a more lengthy review of the same subject for the American Philosophical Society at Philadelphia under the title, "The Human Harvest," [1] suggested by Professor John R. Seeley's statement that during the period of the Antonines in Rome "the human harvest was bad." By this he meant that though there were *males* enough in Rome, which was filling up like an overflowing marsh, "*vir* had given place to *homo*," and "the Empire perished for want of men." In 1915 a still more extended treatise on the same subject, in which I gathered together all material then available, was published by the Beacon Press under the title, "War and the Breed." [2]

"The Human Harvest"

"War and the Breed"

[1] Considerably expanded and published in 1907 in book form with the same title, and dedicated to the memory of my brother. See Chapter 1, page 9.

[2] Some of these books were soon printed in other languages:

"*La Guerre et la Virilité*" and "*La Moisson humaine*," translations into French by Jacques Dumas of "War and Manhood" and "The Human Harvest," published in Paris — a copy of "*La Moisson humaine*" having been given to each (then) member of the French Senate by D'Estournelles de Constant, who, like Dumas, will appear in subsequent pages;

"*La Cosecha humana*," translation into Spanish by Dr. Aurelio M. Espinosa

Mrs. Stanford and world peace

Incidentally I may add that at the end of our war with Spain, Mrs. Stanford, influenced no doubt by her husband's abiding interest in international arbitration, asked if I could not take a leadership in some great reform — World Peace, for example, as I had often spoken in its behalf. This request was of course neither the cause nor the source of my work for international conciliation, but I mention it to show the attitude of both founders of Stanford University toward the greatest of all social reforms, the one indeed on which all others wait![1]

2

To the Southwest

In the summer of 1898 Mrs. Jordan and I had a wonderfully delightful vacation, one part of which was notable, at least in our own lives. In early June, at the instance of Emory E. Smith — for a time a teacher in Stanford University — and accompanied by him and several other congenial friends, including Dr. Branner and Mr. Charles F. Lummis of Los Angeles, we set out to visit the Grand Canyon of the Colorado. Later, at Lummis' invitation, a few of us extended our trip to the

(of Stanford University) of "The Human Harvest," published in Madrid as companion volume to "*El Imperio invisible*," his translation of my "Unseen Empire"; and

"*Kokumin no Kotto*," translation into Japanese by I. Nakamura (Stanford, '05) of "The Blood of the Nation," published in Tokyo.

"*Krieg und Mannheit*," — that is, "War and Manhood," — my address (in German) at Berlin, 1910, was published in Vienna by Dr. Alfred H. Fried, consistent opponent of German militarism, of whom more later, for free distribution in Germany. Its keynote may be found in Franklin's epigram: "Wars are not paid for in war time; the bill comes later." See Vol. II, Chapter XXXVI, pages 299–300, 307–308, etc.

[1] Mr. Stanford's attitude has already been made clear; see Chapter XVII, page 402, and Chapter XX, page 487.

pueblo of Acoma[1] and its "Enchanted Mesa" in New Mexico.

Lummis, by the way, although Eastern-born and Harvard-bred, is one of California's unique and original characters. Active and versatile, Western to the core, he has attempted without hesitation any feat, physical or mental, which touched his fancy. When we first met him he was editing *The Land of Sunshine*, afterward *Out West*, and the editorial section, picturesquely styled "In the Lion's Den," always contained vigorously trenchant criticism, occasionally intolerant but generally with a fundamental basis of justice. In Indian and Spanish-American affairs, on which he has long been an authority by virtue of study, travel, and personal observation, Lummis is profoundly interested. With him and his talented wife,[2] Mrs. Jordan and I came to have most friendly relations. The best test of that friendship, he claimed, was the naming after me of a son born on my birthday anniversary, January 19, 1900. In the future of Jordan Lummis, now a tall, fair-haired youth of much promise as an electrical engineer, I naturally feel a distinct interest. And to his father we shall always be especially indebted for the memorable experience soon to be related.

Lummis and "The Land of Sunshine"

From Flagstaff, then the usual point of departure for the Canyon, we made two preliminary side trips. The first was to Walnut Creek Canyon, some miles to the south, where a number of well-preserved cliff-dwellings are wedged under an overhanging rock. The second, on horseback, led to the top of one of the San Francisco Peaks, extinct

Cliff-dwellings

[1] Accented on the initial "a." [2] Now Mrs. Courtenay De Kalb.

volcanoes of very ancient date, the highest reaching an altitude of about 13,000 feet and famed among botanists for its strongly marked consecutive zones of vegetation. Dr. Branner also visited (as the rest of us did not) three recent volcanic craters less than a thousand years old at the most and very interesting to the geologist. These, which lie forty miles and more northeast of Flagstaff, are known as O'Leary's Peak, Sunset Peak, and Black Crater.

Bound for the Grand Canyon

The old stage drive of seventy miles from Flagstaff to Grand View, a fine point several miles above the present large hotel at Bright Angel,[1] we found extremely interesting, even if rather fatiguing because of the heat. The way lay through alternating stretches of open, rocky desert and the noble Coconino forest of Yellow Pine — *latifolia* — a twin to *ponderosa*, the Yellow Pine of the Sierra Nevada. In moist glades along the line were patches of glistening white aspen, their leaves a-tremble with the least movement of air. On sunburnt boulders, large and swift bright-green, chameleon-like lizards — *Callisaurus* — freely disported themselves. One of these we caught, though with some difficulty, and took home for leisurely study. For the same purpose we gathered in from time to time several samples of Horned Toads — *Phrynosoma* — in exquisite pastel shades of rose, lavender, and gray, perfectly matching the rocks over which they crept.

It is quite impossible (and fortunately quite unnecessary) for me to describe the stupendous chasm of the Colorado River. Its grandeur and beauty,

[1] In his famous descent of the Colorado by boat, Major J. W. Powell found on the west side of the Canyon a muddy stream which he called the "Dirty Devil." Below, from the opposite bank, comes tumbling down the clear "Bright Angel."

its weird magnificence, and its sublime supremacy the world knows. But it impressed me also through its infinite laziness. For while the rest of the earth's crust has been repeatedly folded and racked by gigantic forces, this isolated district rested undisturbed in the sun beneath a warm and shallow sea for a million years and more. Thus during geologic ages its sand and clay were slowly piled up, layer on layer, until at last the emergence of the Sierras dragged it too above the Gulf. Forces of erosion then began to work, and the river swept away — as sleepily — most of what the sea had before laid down, leaving only scattered flat-topped buttes or *mesas*, to testify to former levels of the ancient plain.

Primeval peace

Two miles of vertical depth above the present canyon rim were thus washed away.[1] But at that dim point in time and space, general erosion was sharply checked, the flinty limestones of the subcarboniferous interposing their firm resistance to the gnawing, sprawling stream, and forming the upper stratum of the present Coconino plateau. The river now had to get down to business in order to break through the flinty crusts; this once accomplished at the area of deepest current, it began to narrow its bounds. Growing then progressively deeper and swifter, it made relatively quick work of a mile of secondary rocks, and dropping persistently from stratum to stratum is at present engaged in tearing away the earth's granite core at the bottom — a tough job in which it has already made some progress.

Erosion two miles deep

A tough job

[1] According to Clarence E. Dutton, "Tertiary History of the Grand Canyon," 1882, the area of maximum denudation is from 13,000 to 15,000 square miles, and the average thickness of the strata removed about 10,000 feet.

That the river did all this alone and unaided, neither ice nor frost, neither earthquake nor mountain-folding having left its mark on the canyon, is at once evident to the geologist. Ice would have made a lake of it; frosts would have sloped back its cliffs; earthquakes would have crumbled its walls; and mountain-making would have uptilted its strata. In the simplest, easiest, and laziest fashion rocks were deposited in the first place — in the simplest, easiest, and laziest fashion they have been washed away again; and a view from the rim almost anywhere shows at a glance how it was done. Away from the canyon, however, through western Arizona monstrous lava intrusions, covering hundreds of square miles and even rising into high mountains, are scattered here and there, the most important being the San Francisco Peaks.

Earth sculpture

The remarkable old winding trail down which we made our way to the turbulent river (a stiff trip, especially on the return) was the work of the noted guide, John Hance, a native of East Tennessee. Hance was a humorist of rare degree. From the brink of the abyss he used touchingly to show the whitened skeleton of a horse a mile below, and tell a marvelous tale. Riding one day along the Rim, he was attacked and surrounded by Navajo Indians, who barred every ordinary way of escape. Spurring on his horse, therefore, he took a hazardous leap into the Canyon. Near the bottom, however, he had the presence of mind to slip to the ground, suffering some bruises, of course, but saving his life, though at the cost of a faithful animal.

Hair-breadth escapes of John Hance

On another occasion (so he said) he was down by the river, angling for the Squawfish of the Colorado

—*Ptychocheilus lucius*—a huge chub three or four feet long. But as it naturally gets very hot on the canyon floor during the middle of the day, he lay in the shade of a *mesquite*, tied the line to his boot, and promptly fell asleep. Soon there came a mighty tug, and before he could lift a hand an enormous fish had hauled him bodily into the stream! Perceiving at once that it was making for deep water with plain intent to drown him, but wishing to save as much of his line as possible, he went down it, hand over hand, almost to the hook. Then taking out a knife, he cut loose, gave the fish a kick in the jaw, and swam back to shore. At this point in the story he pensively observed: "There is nothing so desperate as an angry fish." *The wrathful chub*

A third egregious yarn related to his perilous encounter with an infuriated bear from which he escaped by climbing a tree. The harrowing details have slipped from my mind, but I distinctly recall the solemn manner with which he pointed out the identical tree as evidence of good faith.

3

After some days about the Canyon our original group dissolved, eight of us proceeding in accordance with previous arrangement to alluring Acoma. Besides the valiant "Lion," his little daughter Turbesé (now Mrs. Frank Fiske), and ourselves, the party consisted of Theodore H. Hittell, the well-known historian of California, Miss Catherine Hittell, his daughter, Milnor Roberts, our student companion on various previous excursions, and *On to Acoma*

F. W. Stephenson, a young business man of San Francisco.

Acoma, the oldest "continuing city" in America, is one of a chain of ancient settlements, nineteen in number, of varying size and importance, generically called *pueblos*.[1] Omitting Acoma, the most striking of the group, the best known are Zuñi, Taos, Moqui, Cochití, and Isleta. All are peopled by the "Pueblo Indians," to use the common term, a group comprising six branches of one sedentary, aboriginal stock, each division having its own language or dialect, but (according to Lummis) all probably descended from, or more exactly identical with, cliff dwellers of an earlier day, the different methods of life being more or less bound up with differing local conditions. "To the largest of these tribes, known as the Queres, counting over 3000 souls and with seven towns, Acoma and Cochití belong."

Pueblo towns and people

Communal defense

The characteristic Pueblo architecture was obviously planned for defense against the roving and predatory Apaches and Navajos frequenting the region; the same factor also obviously determined the location of most of the original settlements. Taos, however, differs from the others in its two six-storied dwellings, monstrous human hives as it were, and Isleta lies on level ground conveniently near the Rio Grande with its unlimited supply of water. Some of the rest, less fortunate in the last respect even though better protected, depend wholly on summer rains to fill their tank-like excavations in the rock. In modern times a few "daughter" pueblos have arisen; Laguna on the Santa Fé railway, for example, is an overflow mainly (though

[1] The Spanish noun *pueblo* is, of course, ordinarily applied to any town.

GATEWAY TO ACOMA

ON THE MODERN TRAIL

not entirely) from Acoma, and Acomita, overshadowed by the huge Mesa Prieta a few miles farther west, serves in some sense as a summer resort.

The Acoma mesa

Acoma itself perches weirdly on a mighty, flat-topped table or *mesa* of bright-red sandstone some seventy acres in extent and edged by vertical cliffs 355 feet in height, deep-gashed and eroded into fantastic buttresses and pinnacles. Moreover, to add to the generally uncanny effect, the mesa consists of two nearly equal parts joined by a narrow rock isthmus, though only the northern and more level section is inhabited.

Coronado visits Acoma

"The home of half a thousand quaint lives and half a thousand years of romance,"[1] Acoma was already ancient when (in 1540) Coronado, the explorer, came upon it on his way westward from Zuñi in search of the mythical "Gran Quivira," and before his discovery of the Grand Canyon. With his intrepid but peaceable band he gave no cause for resentment. Indeed, to the Acomas the visitors seemed like "fair gods," and were allowed to proceed unhindered. Spanish soldiers, arriving later, were not so fortunate; the history of Acoma as a nominal vassal of Spain was marked by bloody insurrections and fierce encounters, during one of which (1599) the "eternal battlements" were stormed by Oñate, and the pueblo was temporarily crushed. In 1680, however, the Queres tribes rose as a body, killing all the Spaniards in what is now New Mexico, — upward of five hundred colonists and missionaries, — and it was not until 1700 that Acoma reappeared in history, its church rebuilt

Revolt and massacre

[1] See "A City in the Sky: The Land of Poco Tiempo"; Charles F. Lummis.

Wise concessions

and its people restored to the Catholic fold. Meanwhile, in view of reluctant conversion, the priests wisely and by tacit consent allowed their charges to retain enough of pagan customs to bind together the old and the new.

The houses, substantially built of stones held together by clay cement, constitute three long blocks, each a thousand feet in length and cut by partitions into separate homes without interior communication. At the front, facing a rude street, the lowest and widest of the two or three receding stories of which each unit is made had in former times neither window nor door, entrance being invariably by means of a ladder drawn up at night.

The house a fortress

From the vantage point of the flat terraces intruders could be easily detected and fought off, and the dwellings as a whole form what is essentially a great communal fortress, the forbidding rear wall of which rises sheer and unbroken to the roof. Translucent gypsum (selenite) made passable windows before glass became available, and the living rooms have tiny corner fireplaces to furnish a degree of warmth. It will thus be seen that the Pueblo folk had of themselves reached a respectable level of orderly living long before they learned to use an iron cook stove. They are, if anything, over-clothed, especially the women, who wear expensive but modest and quaintly attractive dress; and in general intelligence, as well as in moral stamina, they rank high.

The large and picturesque Acoma church stands on the eastern edge of the mesa. In front is the crowded cemetery, a huge stone box nearly 200 feet square and 40 feet deep at the edge, which it took

forty years to fill, all the earth having been laboriously brought up in baskets from the plain below. While we were there, I noticed a man digging a grave and occasionally throwing out an old bone. The Indian boy looking on said: "He been there long enough; get out, give other fellow a chance."

Acoma trails

Acoma is now reached by three accessible trails, two of them ancient, ladder-like, and most precipitous, the third a recent broad, curving road of easy grade. Down this last, hundreds of community ponies, burros, and cattle are driven every morning, with much clatter of hoofs, to graze on the plain below, and up it they return each night to shelter.

The Acoma holdings, confirmed by federal patent, comprise 96,000 acres mostly mountainous and very scantily timbered with dwarf pine (*piñon*) and red cedar. But great patches of arable land bordering the little rivers, the Agua Azul and the San José, yield abundant crops of maize, besides wheat, beans, *chili* (red pepper), and muskmelons, and bear small orchards of peaches. The handsome Acoma terra cotta pottery, decorated with red, black, and white, is well known to collectors, the use of white earth being peculiar to this one pueblo.

Acoma pottery

Fine courtesy

Lummis being *persona grata* in the home of Martin Valle, the former "governor general," his grandson, Juan José Valle, extended his hospitality to the ladies and myself, while the others retreated by night to the old monastery. It was also courteously arranged that I should have first chance at the kitchen stove so that we might prepare and eat our breakfast before the household was astir. We had, of course, brought our own provisions, but

these were supplemented by the purchase of local supplies — a haunch of goat and a few pounds of cornmeal ground in primitive fashion with a stone *metate*. As the native maize is purplish or deep lavender in color, from it I prepared, as my choicest contribution to the bill of fare, a most æsthetic-looking bread and porridge.

Camera magic

The Acomas, like other Indians I have met, object to being photographed, their idea being that the picture magically steals away an outer skin of whatever it represents. Nevertheless, through the charming but timorous children of the table-land, won by a generous largesse of sweetmeats, I finally succeeded in reaching the hearts of their parents, whereupon, by Lummis' ingenuity, reluctance toward the camera was partially overcome.

Dizzy ways

In the course of our six days at Acoma we traversed several strange and narrow ways, among them the treacherous "split trail" and the unique "Camino del Padre" [1] by which we, like the good Father, first climbed to "the city in the sky." Our leader himself went up and down the long-abandoned and practically impassable north trail twisting over bulging precipices — a feat never before accomplished by a white man.

In the central square we passed the obscure trapdoor leading to a sacred underground chamber in which, it is said, primordial rites are still observed; and exploring a score of rocky nooks hid beneath the overhanging promontories, we now and again touched the brink of other ancient mysteries. In

[1] "Outside of the pueblo towns there is not another footway so picturesque in all the three Americas." Lummis, "Three Weeks in Wonderland"; *The Land of Sunshine*, August, 1898.

secret shrines lay little bunches of feathered "prayer sticks"; sacrificial caves offered refuge from the thunderstorm due regularly every afternoon; and a single, crumbling cliff-house, secreted under the remote edge of the south mesa, bore its own unfathomed portent. *Supplicating the gods*

A half mile from the town lies the great rock water-tank or reservoir filled by summer rains. From it daily files of women move statuesquely over rough and narrow trails across the "crag hyphen" which joins the two mesas, a gay *tinaja* securely balanced on each head.

Our last day at Acoma was marked by the celebration of the Fiesta of San Juan. This began early with a beating of drums, followed by a procession through the pueblo and down the great trail. But the principal event of the day was the *gallo* (cock) race, in which lusty youths upright in their saddles on swift ponies dashed by, trying to grasp by the neck a cock hung high above. In the final ceremony, that of bread-giving, women tossed bread and other gifts from the housetops to the participants in the race. *A gallo race*

General enjoyment of San Juan's day was somewhat diminished by the arrival that morning of the devoted Miss Taylor, medical missionary at Acomita, whose painful duty it was to vaccinate a round hundred wailing kids. As we ourselves previously discovered, smallpox had broken out in one of the homes; and vaccination is the white man's effective incantation against one of the Indian's awful scourges. *The white man's incantation*

4

Enchanted Katzimo

Foreign and fascinating as we found Acoma to be, it was not the chief end and aim of our pilgrimage. Three miles away and still higher rises "Katzi'mo," the Enchanted. This primordial stronghold, austere, silent, deserted but unforgotten for a thousand years, dominates the plain and challenges every eye. For from bottom to top of its 430 feet it presents a curving succession of sheer rock walls with only a single break and that apparently inaccessible. Tradition nevertheless insists that it was long ago the site of an ancestral Queres pueblo, access to which was destroyed one day when a mighty cloudburst swept away in an instant the ladder-like trail ascended by toe-holes cut in the rock. Aghast at the destruction, and confounded by what they took to be the wrath of the gods, the frightened workers in the fields below dared make no attempt to regain their homes. So abandoning to their fate the three old women who had been left that morning on the top, they moved over to the next mesa, where in time they developed the present settlement of Acoma.

Legend of Katzimo

So goes the legend. Accepting it as genuine, a belief justified by intimate knowledge of the people, Lummis printed the interesting story. Its credibility was then questioned by Professor William Libbey of Princeton, who forthwith set out to investigate the uninhabited rock. Employing a mortar, he succeeded in throwing a stout rope across Katzimo at its narrowest part, and by means of this was himself pulled to the top in a boatswain's chair. There, during a hasty examination, he found

"Disenchanting" the mesa

PARTIAL VIEW OF ACOMA PUEBLO: ENCHANTED MESA IN DISTANCE

Courtesy of Solomon Bibo

no evidence of former occupancy, and the usual daily afternoon thunderstorm being imminent, he hurried down to telegraph to the press from the nearest station that "the Enchanted Mesa" was now disenchanted!

Hodge's expedition

A lively controversy followed, and a more thorough investigation was arranged by Frederick Webb Hodge of the United States Bureau of Ethnology. Hodge's party contained (besides himself) Major Pradt of Laguna, United States deputy surveyor, A. C. Vroman of Pasadena, photographer, and H. C. Hoyt of Chicago. By scrambling up the 224 feet of broken talus thrown down from above, they reached the foot of a perpendicular wall about thirty feet in height. From that point, by means of special interlocking six-foot ladders and suitable ropes, though not without serious difficulty, in a little more than two hours they attained the summit, where they spent the night.

Evidences of habitation

On the bare rock (from which practically all surface soil has been washed away) they found abundant and unmistakable evidence of former habitation — flints, arrowheads, stone axes, agate chips, beads, and, most important of all, fragments of very ancient pottery decorated with a vitreous glaze, "an art now unknown to Pueblo potters." Similar artifacts, moreover, had previously been picked up by them in the talus below. There were also traces of an ancient house foundation. As Hodge observed: "Katzimo is still enchanted. The lore of a millennium is not to be undone by a few hours of careless iconoclasm." [1]

Lummis' plans involved the ascent of the *Mesa*

[1] "Katzimo, the Enchanted"; F. W. Hodge, *The Land of Sunshine*, November, 1897.

Encantada by our party, but he met an unexpected obstacle in the superstitious opposition of the authorities of Acoma. He was therefore obliged to ride twenty-five miles to Laguna and back, to appeal to his old friend, Solomon Bibo, the local storekeeper, an adopted member of the tribe and formerly governor of the pueblo, before the necessary permission was accorded. Major Pradt now furnished the six ladders used by Hodge and kindly consented to go along. The local missionary, Mr. Lukens, in whose house my wife and I had lodged for a night, then attached himself to the party, as did also seven Indians from Acoma.

A furious ride

At the top of the talus, shallow niches dug with our knives in the soft red rock afforded support for the ladders, all six of which were needed to enable us to ascend the first precipice. A little higher up a rise of five feet only was easily surmounted; but above this rose the most difficult stretch of all, an almost perpendicular cliff thirty-five feet high, and at its base the ladders rested most precariously in our niches on the slanting rock. Extra care being therefore imperative, Roberts and Stephenson climbed up ahead with ropes about their waists so that we might hold them in case the ladders slipped and let them fall. Reaching the top they anchored these securely, after which the rest of us, each also protected by a rope, went up in turn. From then on we encountered no difficulty, and easily finished the trip, little Turbesé, six years old, being the first to set foot on the mesa floor. Our record as to time, it may interest some to know, was two hours and ten minutes — about the same as that of Hodge and his companions. We had, of

Precarious hold

course, the advantage in several respects, as Major Pradt had already made the ascent and was therefore familiar with the necessary details. Our party, however, was the larger — containing, moreover, a child of six and a man of eighty.

The top of Katzimo is rough and bare of soil, as I have said, with only a few weedy plants and some scrubby half-dead cedars by way of vegetation. From it the view is superb; to the south, Acoma, westward the dark mass of the Mesa Prieta, and in the north the green dome of San Mateo, the highest mountain in New Mexico.

Trophies from the top

Moving about, we at once picked up various Indian relics, indisputable proofs of former occupancy — among them eight arrowheads, seven shells which must have come from the Gulf of California and were apparently part of a necklace, a blue turquoise pendant, and two agate chips used in making arrowheads, besides beads and a few fragments of broken pottery.[1] The large cairn of stones noted by Hodge and obviously set up by man could neither be overlooked nor mistaken, though to me it alone bore no evidence of antiquity. Lummis, burdened as usual with his heavy camera, took a number of photographs, thereby adding to his already enormous stock of records of the Southwest.

Safely down

Going down was about as ticklish as going up, but we all reached the bottom safely, having on that twenty-second day of June, 1898, brazenly flouted the gods, and thus once more, as it were, "disenchanted" the Enchanted Mesa.

As a naturalist I was interested in the local animal

[1] Figured in "Three Weeks in Wonderland" by Charles F. Lummis; *The Land of Sunshine*, August, 1898.

life of the plateau which, at a general elevation of 6000 feet, extends from near the Rio Grande westward across the broad Continental Divide to the Grand Canyon of the Colorado. About Acoma as elsewhere, especially to the eastward, "prairie-dog towns" are much in evidence. *Cynomys* is of course not a dog, but a large, squirrel-like, short-tailed beastie with the queer habit of spending much of the day sitting erect, as if on guard, at the mouth of his burrow. Notwithstanding this watchfulness, however, his hole is sadly infested by the Burrowing Owl and the Rattlesnake, evil boarders who devour the young of their hosts and drive the latter out of house and home.

The prairie dog

Burrowing owl

The little, long-legged "Burrowing Owl" — *Speotyto* — with a shrill yet plaintive call suggesting that of the whippoorwill, is a characteristic feature of the arid West, almost as much so as the Road Runner — *Geococcyx* — the omnipresent wraith of cactus and chaparral.

The rattler — *Crotalus atrox* — the second uninvited guest, is still less welcome than the owl. During our walk about the foot of Katzimo, we frequently caught sight of a snake coiled in the entrance of a dog hole. Accordingly we drew a big one out in the usual way by employing a hooked umbrella handle. Pinning it down with a notched stick behind its head, Lummis then seized it by the nape of the neck and held it before a camera, his face carved by mingled emotions, a study in physiognomy.

An astonished rattlesnake

Leaving "Wonderland" behind us, we returned to Laguna, whence we made next morning a short

LUMMIS-JORDAN PARTY ON TOP OF ENCHANTED MESA

ENCHANTED MESA FROM THE SOUTHEAST, SHOWING LOCATION OF RUINED ANCIENT TRAIL

visit to Cubero, a Mexican village up the road near the foot of Mount San Mateo. The neighboring hamlet of San Mateo on the mountain slope is said to be the most un-American community in our nation, it being the abode of "the Penitent Brothers" (*Los Hermanos Penitentes*) so graphically described by Lummis.[1] These are the degenerate remnants of an old Spanish order, the members of which chastise themselves in Passion Week to expiate the sins of a year. Ordinarily, they use cactus thorns and other minor instruments of torture — though a more or less real crucifixion has occasionally been staged as part of their annual repentance. *Penitentes* overflow into the dull village of Cubero; we saw none, however, — they were not in season, — but an Impenitent Brother (Lummis) drove us back at a scandalously rattling speed, shortening the thirteen miles by taking each *arroyo seco* at a jump.

Strange customs

Looking back on our experiences in and about Acoma, I found myself most of all impressed by the dim glimpse it gave into the life of a primitive people, gentle, ingenious, home-loving farmers settled in a land where farming was most difficult, both because of the barrenness of the land and the badness of their neighbors. Surrounded by nomad hordes with no calling but war, no industry but the chase, their decent, substantial dwellings set on inhospitable cliffs ascended only by toe-holes and stone ladders, testify to the virility of their native civilization.

Home-loving aborigines

[1] See "The Land of Poco Tiempo."

CHAPTER TWENTY-FIVE

I

A long holiday

EXTENDING the regular holiday vacation at each end, in December, 1898, and January, 1899, Mrs. Jordan and I, in company with a number of friends, visited the interior of Mexico. The business management of the trip was attended to by John E. McDowell, then a Stanford senior, since for many years assistant registrar, and now alumni secretary, of the University. In the company were Professors Dudley and John O. Snyder of Stanford; William T. Reid of Belmont; Mrs. Leib, wife of Judge Leib, and their daughter Elna, now Mrs. William H. Wright; Mr. George M. Bowman, a banker of San José, and his daughter Edna, now Mrs. Charles J. Kuhn; Charles A. Story, a Stanford student of fine literary ability, whose early death cut short a promising career; and Edward C. Ely, a lad from St. Matthew's School, later a graduate of Yale.

Siestas alternating with fiestas

In these pages I cannot attempt to do even partial justice to our varied impressions of the land with its contrasting glories and squalor, but the trip was highly interesting and instructive. Mexico's teeming millions, ignorant, superstitious, and ill-nurtured, with little self-control and no conception of industry or thrift, — lacking, indeed, most of our Anglo-Saxon virtues, — had yet for me a certain compelling fascination. Moreover, in the mass are many of pure Indian blood retaining the sturdy traits of the Aztec, and others who with freedom and education, especially vocational training, would

develop admirable powers of skill and helpfulness.

Those were the palmy days of Porfirio Diaz, an Indian who knew his kind, and whose rule was a singular compound of tribal affection, hard-fisted order, and alliance with foreign interests. The old *Presidente* then enjoyed unbounded popularity; his word was law and every tongue sounded his praise. Communities he visited would ask to be allowed to add to their names the phrase "*de Porfirio Diaz*"; and the problem of ruling an illiterate and poverty-stricken population in a land of great potential wealth, owned almost entirely by Spanish landholders and foreign corporations, seemed for the time measurably solved, though by methods sure to break sooner or later. At the best, however, the problem is most complex. For leaving out of consideration the character of the people themselves, the very nature of the country and its industries makes large holdings a necessity. Mines, cattle ranches, irrigated valleys, rubber plantations, all require large capital and, by tradition, servile labor.

The adored Presidente

Most Mexican towns have a stately air, at least when seen from a distance, their shining, dome-shaped towers dominating the landscape. But the view from the Heights of Chapultepec across the Valley of Mexico is one of the noblest on earth: for majestic background the two huge snow-crowned volcanoes, Popocatepetl and Iztaccihuatl,[1] next, in the middle distance, the great city with its glitter-

View from Chapultepec

[1] In Aztec *popo'ca*, smoke; *te'petl*, mountain; *iz'tac*, white; *ci'huatl*, woman. Popocatepetl is 17,794, Iztaccihuatl, 16,200 feet high.

ing domes of brass, and, just below, the superb, somber Mexican Cypresses — *Taxodium distichum* — last relics of a giant tropical forest famous since the days of Cortez.

An exquisite outlook

From Mexico City we went up the mountain-side to lovely Cuernavaca, capital of Morelos, overtopped by the perfect cone of Popocatepetl; and from there we made a trip on horseback to the ancient Aztec fortified town of Xochicalco, its crumbling stone walls still embellished with interesting carvings symbolic of vanished fancies.

"Los Toros" at Guadalajara

At Guadalajara, reluctantly but somewhat as a matter of duty, I attended a bullfight, a disgusting spectacle of disemboweled blind horses and clever butchery of dazed and disconsolate bulls; the onlookers, moreover, displayed national customs in their most offensive aspect. The two classes into which Mexicans divide are sharply set off at the Arena. In the reserved section marked *Ombre* (shadow) sit the people of importance — landholders and professional men, Spanish for the most part, self-contained and perfect in deportment, at least unless unduly provoked. Opposite them, in the *Sol* (sun) swarm the *peons*, *mestizos* mainly, with high-pointed straw *sombreros* and red *serapes*, the same noisy, impulsive, ruthless, hot-tempered, uncontrolled mob which has flocked about the bloody sands ever since gladiatorial combats and bull-fights began. Yet Guadalajara seemed the most prosperous, as it certainly is "the cleanest, finest, brightest, and healthiest of Mexican cities" — people of pure Spanish extraction being there in the majority.

During our stay in that region we were all guests

for a day and a night at the ample *hacienda* of Atequiza, a great *rancho* twenty-four miles out of Guadalajara, near Lake Chapala, Jalisco; for Señor Joaquin Cuesta, head of the house, whom I had previously met in San Francisco, had invited us to visit him when in his neighborhood. The lordly courtesy and hospitality of our host we found thoroughly delightful. Going about the estate, I was much interested in the contrast between progressive American methods and the primitive customs of an unscientific people. Don Joaquin, for example, was operating a modern flouring mill stocked with machinery from Rochester, New York, but the soil was still plowed with crooked sticks because the *peons* persistently refused to have anything to do with *gringo* inventions.

Abundant hospitality

With the revolution of 1912 came the downfall of the hacienda system, and the seizure of the land by the people, who now usually hold it in communistic fashion. As is generally recogniżed, this upheaval paralleled that in France in the eighteenth century and the recent one in Russia; inevitable also as it was, it necessarily involved terrible injustice and misery to a tenderly reared class which had, however, not been the one to suffer before! The fate of Atequiza formed no exception to the common lot, and Modesto Rolland, a Mexican friend, tells me that the courtly and kindly Don Joaquin was shot by Francisco Villa in a raid in Jalisco.

Great estates seized by the people

Throughout our travels, notably at Guadalupe Hidalgo, Zacatecas, and Cholula, we were interested in the votive chapels. To them people afflicted by one or another malady, ranging from earthquakes to the "evil eye," come from near and

far. Those who feel themselves cured leave some visible sign of their gratitude. At Guadalupe Hidalgo a man saved from shipwreck had put up an imposing stone monument — a boat with hull, mast, and sail — as an offering to Our Lady of Guadalupe; and other gifts equally strange, though less bulky, abound in all the sacred shrines.

Striking contrasts

But I might run on indefinitely about the mingled charm and beggary of one place after another; the high waterfall of Xico or the broad Niagara-like Juanacatlan; the quaint Biblical architecture of Zacatecas which seems to have sprung from the dry rock; the surprises of Guanajuato with its ancient crypt of upstanding mummies, skeletons of generations of oldest inhabitants; and the sad plight of fever-stricken Vera Cruz, where the cheapness of human life was reflected in general recklessness and dissipation.

Mount Orizaba

I might dwell on the grandeur of the Pico de Orizaba, its 18,225 feet of brilliant green topped with dazzling white rising in lines of perfect beauty above the tropical city which bears its name, and which nestles among forest trees hung with orchids and Bromelias, — the whole mountain-mass a succession of zones of vegetation with hardly a parallel in the world. I might write of Córdoba, smothered in tropical vegetation and rioting in luscious fruits, or of the wild delights of the valley of the Rio de las Balsas where the forests swarm with far-away birds — not only parrots, but black toucans also, with bills much too large for their bodies, strange woodland creatures one does not meet every day. Or, finally I might recall Alpine Amecameca[1] on

Exotic lands

[1] Accented Ame'came'ca.

PUENTE DE ÍXTLA, MORELOS, MEXICO

the foothills below Popocatepetl's eternal snows, from which one has a magnificent outlook downward as well as upward. But other things demand attention, and I must not linger here. *Alpine heights*

Leaving the party from time to time, Snyder and I made several large collections — one at Lake Chapala, famous as the choicest winter resort of migratory birds on our continent, one at Puente de Ixtla in a tributary of the Rio de las Balsas, and one from the sea at Vera Cruz. Specially interesting is the fish fauna of the three volcanic lakes, Chapala, Pátzcuaro, and Zirahuen, as each separate body of water contains several species of closely related, large atherine fishes or Silversides of the genus *Chirostoma*, all of very delicate flesh and locally known as *pescados blancos*, "white fishes," or *pescados del rey*, "fishes of the king." *Chirostoma* occurs only in various lakes of central Mexico, though its allies are scattered over the warmer parts of the world. But the singular feature is that the dozen or so clearly defined species look very much alike, forming an apparently marked deviation from Jordan's Law.[1] A probable explanation of this anomaly is that earthquake disturbances at one time or another threw together parts of different river basins, thus mingling different faunas. *A problem in Ichthyology*

In the hills of Xico near Jalapa, as already related, I met my first coral snake, a venomous serpent of great beauty of color, which infests the thickets of eastern Mexico. Its Sierran mimic, the red-banded King Snake, a sworn enemy to the rattlesnake, has the playful habit of winding suddenly, *The coralillo*

[1] See Chapter XIV, page 329.

constrictor-like, around the victim and thus breaking its neck.[1]

Diaz the man

In Mexico City I had an interview with Porfirio Diaz, whom I found to be a fine-looking, plain, and direct man, giving an impression of both intelligence and power. As he spoke no English, I told him in my best Spanish that "he had made a great nation of Mexico." "No," said he; "*el germillo de una gran nacion*" (the little germ of a great nation). Being then informed that I was a naturalist, he spoke of something which was to him a standing puzzle; could I explain its nature?

La planta animal

It was called the *planta animal* and it lived in Oaxaca, his native state. Originally a large, clumsy beetle, or rather cicada, it burrowed into the ground and next sprouted up as a plant about four inches high —just a stem with a clump of branches and not a single leaf.

As I had never heard of it, Diaz turned to an officer present, asking him to "go and get a *planta animal* for Dr. Jordan to examine." The gentleman seemed staggered by the order, and said he did not know where to look. I then suggested that he could probably find a specimen in the Museo Nacional, but that as I was obliged to leave that evening, he would perhaps forward it to me at Stanford University, where I would have its nature ascertained and explained. In due time, therefore, it arrived. It was, in fact, a large nymph or immature cicada bearing on its head a tough, branching, parasitic fungus about five inches long — a phenomenon fairly well known to botanists, and of which I returned a full account. The museum label bore the

[1] "Old Rattler and the King Snake"; Jordan, *Popular Science Monthly*, 1899.

legend: "Ninfa de cicada (chicharra) atacada de un hongo, *Cordyceps sobolifera* Berk." The accompanying card read: "With the best compliments of Porfirio Diaz, Jan. 18, 1899."

According to Dr. J. I. W. McMurphy, the fungologist of Stanford, *Cordyceps*—like *Claviceps*, the ergot of rye—belongs to the family of *Hypocreaceæ*. Mr. Atkinson's sketch of the specimen received will give my readers an accurate idea of the unique tragedy of the animal which turns plant.

La planta animal (about ⅓ natural size). Drawn by W. S. Atkinson.

Eleven years after, at the University of Cambridge, my colleague, Dr. Hans Gadow, then lately returned from a collecting expedition in Mexico, related to me an interesting conversation he had had with the President at the Palace. Did the Professor know the *planta animal* of the state of Oaxaca? The professor did not. A secretary was accordingly sent over to the Museo Nacional to get a specimen for inspection. This incident lends a clue to Diaz' general popularity, partly due, no doubt, to his careful selection in advance of appropriate subjects for conversation!

* * *

In the course of our stay in Mexico, my good

My mother's death

mother died at my sister's home in Minneapolis, at the ripe age of eighty-six, having survived not only my father but three of her five children as well. Her last years were spent as a welcome visitor alternating between Minnesota and California. At Stanford in 1896 she regularly attended courses in Modern History, while Mrs. Mary C. Dulley, an American lady of the same age, also with grandchildren enrolled in the University, was her companion in the lecture room.

2

The Hall of Fame

In 1899 I was appointed one of the hundred electors of "The Hall of Fame for Great Americans," of New York University, which institution had recently received (from a person whose name is still withheld) the sum of $250,000 for the erection of an edifice suitable for the end in view. This took the form of a long colonnade encircling the library on University Heights, overlooking the Hudson, provision being made therein for 150 bronze tablets to commemorate the same number of "great Americans." The persons thus honored are chosen by a two-thirds majority of those voting, except in a few cases when, in a sort of primary among the electors especially familiar with the records concerned, the descriptive phrase, "most justly famous," has been agreed upon — in which case only a majority is necessary. It should be added that no one not at least ten years deceased is eligible for election; and until 1915 all born in foreign countries were excluded.

Five ballots have now (1920) been taken. The

names of those already elected I have arranged for each year in the order of the number of votes received:

1900 — Washington, Lincoln, Webster, Franklin, Grant, Jefferson, Marshall, Emerson, Fulton, Longfellow, Irving, Jonathan Edwards, Morse, Farragut, Clay, Peabody, Hawthorne, Peter Cooper, Eli Whitney, Robert E. Lee, Horace Mann, Audubon, James Kent, Beecher, John Adams, Joseph Story, Channing.

1905 — John Quincy Adams, Lowell, Whittier, General Sherman, Madison, Bancroft, Maria Mitchell.

1910 — Harriet Beecher Stowe, Hamilton, Poe, Motley, Bryant, Phillips Brooks, Holmes, Frances Willard, Andrew Jackson.

1915 — Mark Hopkins, Parkman, Agassiz, Elias Howe, Joseph Henry, Charlotte Cushman, Daniel Boone.

1920 — Clemens (Mark Twain), W. T. G. Morton, Saint Gaudens, Eads, Roger Williams, Alice Freeman Palmer, Patrick Henry.

Odd omissions

As to the last election, I may venture to say that I was a little surprised to find that William Penn, Thomas Paine, and Susan B. Anthony were left out, that the votes for Thoreau, George William Curtis, and Spencer F. Baird were recorded as "scattering," and that John Paul Jones received a larger endorsement than John Brown, for while Jones won a heroic fight at sea, Brown turned the tide of American history!

Civic Forum Medal

In or about 1914 I was asked to render a service somewhat similar to the above, by becoming a member of the National Council of the Civic Forum of New York, in connection with its "Medal of Honor for Distinguished Service." The Forum itself, to quote from the formal statement,

is an educational institution founded in 1907. Its object is to strengthen, without regard to party or creed, those forces which

tend to general enlightenment and a higher citizenship. The Forum provides a national platform for the non-partisan discussion of public questions, and the promotion of international good will.

Medal of Honor

The Medal of Honor was established in 1914, to express recognition on the part of the rank and file of the American people of an achievement or a career of preëminent public service.

The recipients of the Medal thus far have been:

General George W. Goethals, 1914
Thomas A. Edison, 1915
Alexander Graham Bell, 1917
Herbert Hoover, 1920

The Medal may be awarded to any American citizen without regard to sex, race, or creed, for distinguished public service in any field of human activity. Such service may be either in the form of a specific act or a more or less extended career.[1]

3

Camping in Kings River Canyon

The month of August of this year was spent by Mrs. Jordan and myself in the Kings River Canyon. With us were Professor and Mrs. Ellwood P. Cubberley, both former students of mine in Indiana, and near by (among others who had gone in some time before) Professors Richardson, Kellogg, and Guido Marx, all of long experience in the art of camping.

Twenty years ago the hundred-mile stretch from railway to Canyon was not made as today by automobile. From Sanger, where we left the train, we staged about two thirds of the way to Millwood, traveling at night to avoid the heat. Arriving at the latter place, we found Richardson and Kellogg, who had generously tramped out to make sure we reached our destination in comfort and safety.

[1] Candidates may be nominated by any resident of the United States. By special exception, no President may be named as candidate during his term of office.

But before starting we took an interesting side trip into the Converse Basin. This forest depression formerly bore a magnificent group of giant sequoias, then being converted into thin boards for chalk boxes, and other petty articles — an ignominious fate; as a matter of fact, however, the wood of the Big Tree (pink in color) is brittle and easily marred, qualities which injure its value for any important service.

An irreparable loss

The largest examples, twenty to forty feet in diameter at the base, were so bulky they could neither be sawed nor chopped down. They were accordingly felled by dynamite exploded near the root and by the same agency split up into irregular chunks for the mill. In this species, as in the Coast redwood, the central rings are coarse, indicating rapid growth in youth, while the outer ones become progressively thinner, the outermost exceedingly so — a fact which testifies to an antiquity even greater than had been commonly supposed before annual increments were counted. One of the very smallest trees, a dozen feet through, had about 1920 rings in all. The central six feet of its diameter was easily found to include five hundred, so that it must have been a sizable tree at the time of the Fall of Rome. In another with a basal diameter of thirty-five feet, and torn by dynamite into strips, the rings could not be counted, but it is safe to say that it was upward of 5000 years old.

Relics of antiquity

Leaving Millwood with a small pack-train led by John Fox, a well-known guide, and accompanied by the two men on foot, we started out over the thirty-five miles of old trail, a short stretch of which

soon brought us to the General Grant Forest, a superb sequoia grove, fortunately a national reserve. At Horse Corral, a large damp, grassy glade high above Kings River, we pitched camp for the night. The next afternoon, from the brink of the Canyon we got a magnificent view of the upper reaches of the Middle and South forks buttressed by the giant crests of the High Sierra. In all the mountain country there is nothing really grander. In the center stands a broad peak, 14,282 feet high, the culmination of a long ridge with several teeth. Studying the map, I was surprised to find that the salient mass bore the name of Mount Jordan, given by Professor B. C. Brown of Stanford, an ardent mountain-lover. At that time, however, it had never been climbed, access to it along the Middle Fork and Jordan Creek being beset by dense brush and jagged rocks. In this case — as in several others — the usual custom of not trying to name a mountain until one had climbed it was disregarded. In 1903 it was ascended by Professor Joseph N. Le Conte of the University of California and others. Lately (1920) it has been shown by Francis P. Farquhar that the earliest and therefore the proper name of the great summit is the North Palisade, given by Whitney's survey in 1864. The crest bears on its east slope a typical glacier, a mile square, the largest in California of these vanishing relics of the Ice Age.

The North Palisade

Entering the Canyon, we encamped at Kanawyer's, in a noble pine forest on the bank of the river, across which towers the Sentinel, a huge, commanding granite cliff. There the green waters of the trout-laden stream, the purest on earth, slip by with

NORTH PALISADE FROM SUMMIT OF MT. WOODWORTH,
"MT. JORDAN" IN CENTER

KEARSARGE PINNACLES AND LAKES

Photographs by Professor John N. Le Conte

mighty, unhindered surge. Remembering Henry van Dyke's charming essays on "Little Rivers," we regretted that fate had never led him to a big one like that. It should be said, however, that fortune favored him at last, for not many years afterward he cast his fly in just such another stream, the upper McCloud, which flows off the south slope of Shasta. This I know, because at a San Francisco dinner in his honor several of us shared the ten-pound Dolly Varden he brought back as evidence of good faith!

Kings River Canyon is one of a noble series of glaciated mountain gorges gouged out on the west flank of the Sierra. To these — as to all similar basins — John Muir applied the generic term *yosemite*, the local Indian name for the canyon of the Merced. Other "yosemites" in California are those of the Kern, Kaweah, Upper San Joaquin, Tuolumne, Stanislaus, Moquelumne, American, Yuba, and Feather. The two greatest of them, the Kings River Canyon and Yosemite Valley, necessarily challenge comparison. The Yosemite has grander precipices, majestic waterfalls, and a general air of scenic perfection; Nature has there done well and confidently rests her case. The Canyon seems planned on a larger scale. Its higher walls slope backward out of sight, and the mountains in which it rises are far more massive.

"Yosemites"

In the Alps, the Lauterbrunnenthal, the Hinterrheinthal below the Splügen, and the Allée Blanche might be accepted geologically as "yosemites."

From our permanent camp we made many fine trips. Goat Mountain, a rugged peak to the north-

west, our first adventure, is a Sierran Rigi-Kulm, revealing an amazing panorama which extends from Whitney and Tyndall on the southeast northward to Agassiz's Needles and Mount Lyell at the head of the Yosemite. Our next excursion led to loftier heights. Ascending the river and turning to the north up the steep trail along Bubb's Creek with its boiling cascades, we camped at Bullfrog, a high mountain tarn in the midst of a bare, slicken basin with an elevation of 11,000 feet. And from here, on the way to Kearsarge Pass — a sudden break in the main range — we climbed the University of California Peak, which, from a vantage point of 13,588 feet, commands a majestic view in every direction.

University of California Peak

Again, leaving Bubb's at the forks of the trail, we came to the deep green East Lake, near which John Muir sketched his unrivaled biography of the Water Ouzel — *Cinclus* — "the humming bird of the California waterfalls." East Lake lies at the foot of a great basin once occupied by a glacier from the north side of Mount Brewer, 13,577 feet, the highest peak bounding Kings River Canyon. This depression, mapped by me for the Sierra Club, I called Ouzel Basin, and to each of the streams flowing through (the headwaters of Kings) I gave names of mammals and birds actually found in it.

Ouzel Basin

At the side of Ouzel Basin on the left towers a stalwart rock mass, Crag Ericsson, 13,625 feet. To the east of the latter lies the steep, stony, and very fatiguing Harrison Pass, the watershed separating the Kings and the Kern. Beyond, above timber line, are numerous small lakes; the largest of these Brown called Lake South America, from

its remarkable resemblance in outline to that of the southern continent.

Stanford University Peak

Eastward, above Harrison Pass, rises the jagged summit of Stanford University Peak,[1] 13,983 feet, the southernmost and slightly lower of its two crests having been earlier named "Gregory's Monument" in honor of Warren Gregory, a well-known member of the Sierra Club, and since an associate of Hoover in "the C. R. B." Stanford University Peak is higher than any other point I have reached in my travels, the top of the Matterhorn alone excepted. Its narrow summit, like that of the University of California Peak, gives a superb short-range view of the same glorious quadrant revealed from the top of Goat, besides a peep into the mighty chasm bounding its eastern side.

Breaking waves of granite

The general configuration of the central ridges of the High Sierra is comparable to that of a breaking wave, each great ridge or summit being bulwarked by a long slope on the west side, though dropping suddenly in awesome precipices on the east. The ascent of any of them is therefore relatively easy save for the long distance from supplies, and the rough boulders and rotten granite over which one must make his way. In the lower levels, also, the rank tangle of bushes infested by lurking rattlers forms a serious handicap except where trails have already been cut. But with time, patience, and endurance, the mountain-lover may creep to the top of any peak, as no special skill or nervous strain is involved. For, as I have said, it is only on the east that one encounters dizzy heights.

[1] This should not be confounded with Mount Stanford in the Tahoe region, named long before for Leland Stanford.

Mount Whitney, the highest, at the head of the Kern, has an elevation of 14,501 feet, just a little less than the Matterhorn, 14,705, and a shade higher than the Finster Aarhorn, 14,026, while at least twenty-two of our summits overtop the famous Jungfrau in the Bernese Oberland. But Mont Blanc, "the monarch of mountains," reaches a height of 15,781 feet — or did, at least, before the last great rock avalanche, which is said to have lowered its crest.

Alps and Sierras contrasted

Comparing once more, the Swiss peaks present greater variety of form and of geological structure, with greater contrast in color, their dazzling snows being sharply set off against green forests and flower-carpeted pastures. In Switzerland also the heavy snowfall fills every higher depression with glaciers, while in California, with its relatively low precipitation, such dwindling traces of a former era have (with scant exceptions) long since passed away.

The Sierras, nevertheless, are richer in color; they throb with life, and over them flows a dry, stimulating, balsamic air. Furthermore, a superb view from any summit always rewards the climber, for the celestial blue is broken only by the occasional midday thunderstorm. The Alps, on the contrary, are bathed in rain or swathed in clouds to a discouraging degree, and the atmosphere is really clear only when the south wind presages or the north wind follows a storm. The blast over, the sky once more needs wiping.

Again, the glacial basins of the High Sierra, huge tracts of polished granite furrowed by streams and fringed with mountain vegetation, are more impressive than the Upper Aar, majestic though

that is. Ouzel Basin, Desolation Valley, and the slopes of Mount Lyell also tell us more of what ice can do than a living glacier itself. Sierran forests, moreover, are beyond comparison nobler than those of the Alps. The pine, fir, and larch woods of Switzerland are only second growth, mere "brush" by the side of our huge pines, spruces, firs, and cedars. These are among the largest trees on earth, while, supremely preëminent, the Giant Sequoia towers above them all.

4

In October, 1899, war was declared by Great Britain against the two Dutch republics of South Africa, the Transvaal and the Orange Free State. For this act no moral justification can be urged. One must, of course, freely admit that President Kruger of the Transvaal, popularly known as "Oom (Uncle) Paul," was arbitrary as well as annoyingly obstinate in his dealings with British gold-seekers. On the other hand, there is no doubt that he had large reason to fear for the integrity of his country should they be admitted to Johannesburg and the mines on terms of political equality; the lawless "Jameson raid" of 1896 gave a foretaste of their disposition.

Oom Paul's obstinacy

In my judgment, all honest differences could have been composed had the intruders really wanted a just settlement. Their haste in pushing toward direct action, regardless of the successful efforts at mediation on the part of President Steyn of the Orange Free State, threw on them the moral responsibility for the monstrous catastrophe which followed and raged almost three years.

Britain's moral responsibility

So far as Great Britain is concerned, Sir Alfred (now Lord) Milner and Joseph Chamberlain seem to have been mainly the active agents in bringing on war. Presumable motives were the Tory desire for expansion of empire, and the hope of warding off political disaster at home by military operations abroad. Few wars, indeed, are begun without a sordid basis — profit, domination, or fear of the loss of power. As was said by some in England at the time, "people do not go to war as children cut off poppy heads, to see the white juice flow." The conflict was costly, bloody, and prolonged — especially inimical, therefore, to British prestige. For, in spite of small numbers, poverty, and isolation, the Dutch farmers held their own in the field, and victory, following nominal annexation, was finally achieved by Great Britain only at great expense of life and money.

Imperial expansion

An interesting feature of the situation preceding the war was the apparent desire of the German Kaiser — always carrying water on both shoulders — to get into the game without actually fighting. In a personal telegram to Kruger (as is well known) he expressed his warm sympathy, even going so far as to arouse the expectation of military intervention by the Germans. And in London I was told that when some one asked Marschall von Bieberstein, former Prime Minister of Germany, why he let such an ill-judged telegram go out, that official replied: "You ought to have seen it before I edited it!"

The Kaiser's telegram

From the first, world opinion was adverse to the British cause, though no formal protest came from any quarter. My own reaction was that vividly

expressed in Joaquin Miller's poem beginning with the lines:

> We wish you well in all things well.

To me as to Joaquin, both of us lifelong admirers of England at her best, the Boer War seemed a gross lapse, a view which few public men of today will question. At the time, however, it was loudly asserted that "the sense of greatness makes a people great"; in other words, expansion of empire inflates the individual! But it is a plain fact that a man's political efficiency depends directly on his personal stake in government. The real basis of imperialism is the suppression of the individual both at the center of power and in its periphery. *A gross lapse*

England is snug and solid, and her self-governing colonies are sufficient unto themselves. Thus the British Empire, in so far as it rests on love of dominion and volume of trade, is vulnerable and temporary, and its "far-flung" segments can be permanently held together only by the cement of coöperative federation; however great also the British genius for colonial control, the fact remains that "no people is good enough to rule another against its will." Nevertheless, just settlements of ancient wrongs are not to be reached in a day, nor (as a rule) by spasms of revolution. "The mills of the gods grind slowly" when they yield a grist worth while. It should also be remembered that political independence gives no guarantee of personal freedom, the only liberty worth considering. *Why freedom matters*

However, it is, or ought to be, an axiom of political science that good government begins at home, because justice and efficiency necessarily decrease

as the square of the distance increases. For which reason, imperialism, benevolent or otherwise, can be only a temporary device at the best, involving dangers to the ruling nation as well as to the people ruled.

Mob and herd instincts

During the Boer War, hysteria and intolerance raged in Britain to a degree almost incredible, those who dared to favor moderation or conciliation being virtually ostracized. Threats of violence were common and physical attacks not infrequent. Even David Lloyd George had once to flee for his life, disguised as a policeman.[1] The general situation at that time is realistically portrayed in "The Mob" by John Galsworthy. This forceful drama deals with the fate of a statesman who stands out against precipitate war. Meanwhile his constituents first,

[1] Referring backward to the Boer War, Mark Twain, through the lips of his "Mysterious Stranger," expressed himself as follows: "There never has been a just one [war], never an honorable one — on the part of the instigator of the war. I can see a million years ahead, and this rule will never change in so many as half a dozen instances. The loud little handful — as usual — will shout for war. The pulpit will — warily and cautiously — object — at first; the great, big, dull bulk of the nation will rub its sleepy eyes and try to make out why there should be a war, and will say, earnestly and indignantly, 'It is unjust and dishonorable, and there is no necessity for it.' Then the handful will shout louder. A few fair men on the other side will argue and reason against the war with speech and pen, and at first will have a hearing and will be applauded; but it will not last long; those others will outshout them, and presently the anti-war audiences will thin out and lose popularity. Before long you will see this curious thing: the speakers stoned from the platform, and free speech strangled by hordes of furious men who in their secret hearts are still at one with those stoned speakers — as earlier — but do not dare to say so. And now, the whole nation — pulpit and all — will take up the war-cry, and shout itself hoarse, and mob any honest man who ventures to open his mouth; and presently such mouths will cease to open. Next the statesmen will invent cheap lies, putting the blame upon the nation that is attacked, and every man will be glad of these; and he will by and by convince himself that the war is just, and will thank God for the better sleep he enjoys after this process of grotesque self-deception."

then his colleagues, later his friends and even his family fall away, until finally he is done to death by the patriotic mob. The height of irony is reached in a final tableau in which his family and the people at large are shown rendering homage to his statue in a public square!

The war over, reaction followed quickly and the Conservative politicians held responsible for its inauguration were thrown out of power. South Africa was then saved to the Empire by Sir Henry Campbell-Bannerman, the liberal premier who followed. Receiving the whole population (of whom the Boers formed a large majority) into full citizenship, the government turned over to them the control of their own affairs. Campbell-Bannerman's enlightened policy thus fixed the loyalty of South Africa during the Great War. Moreover, in the confusion following the Armistice, no British statesman showed to better advantage than the former Boer leader General Jan Smuts.

Campbell-Bannerman

Smuts

5

The principal local event of the autumn of this year was the inauguration of Dr. Benjamin Ide Wheeler, an accomplished scholar, late professor of Greek at Cornell, as president of the University of California in succession to Dr. Martin Kellogg, who had resigned not long before. Having been asked to give the address of welcome at the ceremony, I took as my topic "the place of the president in the American university system." His essential function, I asserted, was to assume the initiative in academic matters and to give to the institution

Inauguration of Benjamin Ide Wheeler

color and personality. In his response, Dr. Wheeler thanked me for a willingness to come to Berkeley every time they inaugurated a new president!

"Eating one's way through"

In those days San Francisco's famous hospitality partly expressed itself in a succession of dinners. On these occasions both Wheeler and I were usually among the guests, and, seated at equal distance from the toastmaster, were called on in turn for an after-dinner speech, acquiring thereby a certain degree of skill and a parallel distaste for the operation. With this experience in mind, my colleague a few years ago warned Dr. Wilbur, the new president of Stanford, that he would "have to eat his way through."

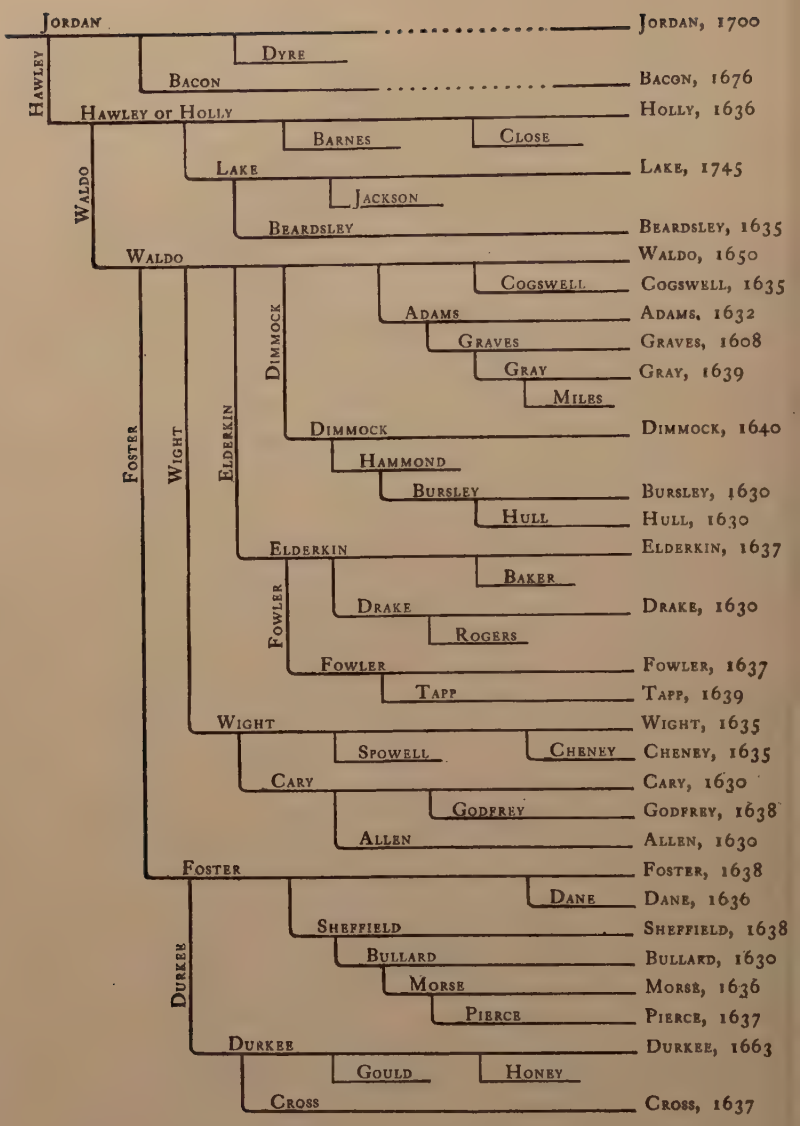
Wheeler had a large fitness for organization and a taste for public affairs. During his long administration the institution made great strides in usefulness, in prestige, and in numbers; and Stanford's friendly rivalry, instead of weakening, proved a growing source of strength. As a result, as I have frequently asserted, the pressure of education to the square inch is greater in California than anywhere else on earth! Upon his retirement as emeritus at the end of twenty years, Wheeler was succeeded by Dr. David Prescott Barrows, formerly dean of the faculties and professor of Political Science. Barrows is a man of genial personality, with large practical experience as head of the Department of Public Instruction in the Philippines and later, during the Great War, in various lines of foreign service.

President Barrows

The year 1899, as I have already indicated, was one of the most important in the history of Stan

ford University. For the great burden of debt and uncertainty had then been finally lifted, and the nstitution was at last able to look hopefully forward to a strong and symmetrical academic development. In the six years of struggle, we had accomplished not what we had dreamed of as the ideal mission of Stanford, but simply the best possible, everything considered. Yet I may truthfully say, in honor of my colleagues, that some of the finest work in higher education anywhere dates from those six lean years; moreover, community of effort and a common anxiety had bound us very closely together.

APPENDIXES



The Jordan-Waldo-Holly Line in New England
As worked out by Edward J. Edwards and Sarah Louise Kimball

APPENDIXES

A

Colonial Genealogy

I. THE JORDAN-WALDO-HOLLY LINE IN NEW ENGLAND

Below will be found, with a few exceptions, (*a*) the name, (*b*) the chief place of residence in New England of each of my immigrant ancestors recorded on the chart on the opposite page, (*c*) his principal home in the mother country, and (*d*) the date or approximate date of his arrival in America. Concerning the first two, however, my information is incomplete and only circumstantial:

Rufus Jordan, probably of Boston, from Jordan, near Ashburton (parish of Widecombe-in-the-Moor), Devon, about 1700
General Nathaniel Bacon, "rebel patriot" of Virginia, from England, 1676, supposed to be ancestor of
Thaddeus Bacon, Hampton, Mass.
Samuel Holly, Cambridge, from London, 1636
Thomas Lake, Stratford, 1745
William Beardsley, from England, 1635
Cornelius Waldo, Ipswich, from Berwick, Wiltshire, 1640
John Cogswell, Ipswich, from Westbury Leigh, Wiltshire, 1635
Henry Adams, Braintree, ancestor of John Adams, 1632
Admiral Thomas Graves, Charlestown, from Stepney, 1608
Thomas Gray, Charlestown, from Harwich, 1639
Edward Dimmock, Barnstable, 1640
John Bursley, Dorchester, 1630
Rev. Joseph Hull, Barnstable, from Northleigh, Devon, 1630
John Elderkin, Norwich, from Devon, 1637
John Drake, Windsor, Connecticut, from Wiscombe Park, Devon, 1630
Lieutenant William Fowler, New Haven, from Islington, 1637
Edmund Tapp, Milford, 1639
Thomas Wight, Dedham, from Isle of Wight, 1635

William Cheney, Roxbury, from Meynall Longley, Derbyshire, 1635
John Cary, Plymouth, from Bristol, 1630
Francis Godfrey, Duxbury, about 1638
Samuel Allen, Braintree, from Bridgewater, 1630
Reginald Foster, Ipswich, "from the west of England," 1638
Dr. John Dane, Ipswich and Roxbury, from Berkhampstead, 1636
William Sheffield, Dover, New Hampshire, 1658
Robert Bullard, Watertown, from Kent, 1630
Joseph Morse, Watertown, from Ipswich, England, 1636
John Pierce, Watertown, from Norwich, England, 1637
William Durkee, Ipswich, from West Indies, 1663
Robert Cross, Ipswich, 1637

Of these colonial ancestors I shall refer to a few of the more or less typical.

John Cary was a belated Pilgrim from Bristol, who, having missed the *Mayflower*, reached Plymouth in 1630. "A graduate of a French college," "a man of much influence by reason of his superior education and upright character," he "taught the first Latin school in the colony." John Cary, his son, a London merchant, settled in Bristol, where "he made a great quantity of ale which he shipped to Newport for distribution throughout the colony." House and brewery gave the name of "Malt Hand Lane" to the street on which they were located, and by which it is still known. "When the church was organized, he was elected one of the deacons and held that office until his death." His tombstone reads:

> Remember death. Here lies ye dust of Deacon John Cary, a shining pattern of piety, whose spirit returned to God that gave it, July 14th, 1721, in ye 76th year of his age.
>
> A man of prayer so willing to do good,
> His highest worth, who of us understood?
> Fear God, love Christ, help souls their work to mend,
> So like this saint, fit for bliss without end.

THOMAS DIMMOCK, son of EDWARD, was chief justice of the first court in Barnstable, of which town he was one of the two founders.

Few of the first settlers lived a purer life than Elder Dimmock. He came over not to amass wealth or acquire honor, but that he might worship his God according to the dictates of his own conscience, and that he and his posterity might here enjoy the blessings of civil and religious liberty. . . . If his neighbor was an Anabaptist or a Quaker, he did not judge him, because he held that to be a prerogative of Deity, which no man had the right to assume.

In dictating his will (1658) he said "that what little he had he would give to his wife (Ann Hammond), for the children were hers as well as his." His granddaughter, Thankful Dimmock, married Edward Waldo, ancestor of Ralph Waldo Emerson.

Captain Shubael Dimmock of Barnstable, son of Thomas, seems to have been a man of parts who "sustained the character and reputation of his father." He occupied various positions of trust, and died, much beloved, in Mansfield, Connecticut, "October 29, 1732, at nine o'clock, in the ninety-first year of his age."

So say the "Annals of Dorchester." In Cotton Mather's famous "Magnalia Christi," however, the Captain made a much earlier and more dramatic exit from life, being slain in a skirmish of King William's War. According to Mather, Captain Shubael was in 1697 a member of a defensive expedition to Casco Bay. At Damariscotta River the party met a band of Indians

who entertained them with a volley and huzzah! None of ours were hurt but Major March repaid 'em in their own leaden coin. . . . Our army thus beat 'em off with the loss of about a dozen men, whereof one was the worthy Captain Dymmock of Barnstable. . . . But there was a singular providence of our Lord Jesus Christ in the whole of this matter. For by the seasonable arrival and encounter of our army a horrible descent of Indians which might deso-

late whole plantations was most happily averted and at the same time the signal hand of heaven gave defeat unto the purposes of the French Squadron at sea, so that they had something else to do than to visit the coast of New England.

Rev. Joseph Hull, Oxonian, associate and friend of Dimmock, who from "religious scruples" had resigned a living at Northleigh in Devon, was also a founder of Barnstable, though once dismissed from his local church because of "unexcused absence from communion," he having, in fact, gone to preach at Yarmouth, five miles away! He was soon reinstated, however; but a large influx of people arriving from Devon (1639) with their own pastor, "Mr. Lothrop," a popular and tolerant man, the majority preferred the latter, "with whom they had suffered persecution in England." Up to that time, Hull had been "the leading man in the town, general manager of its affairs, deputy to the Colony Court, and pastor to the church and congregation,"—

> The founder of a civil community, and however small or weak it may have been, and though no Homer or Virgil has sung his praises, yet he may honestly and truly have said: "I was the instrument in the hands of God to build up this little community and to convert the savage Indians from enmity to friendship."

But because of the church quarrel, "within one short year he fell from his high position, he was excluded from office," lost his influence, and many of his early friends. Chagrined at "the ungenerous treatment he thought he had received," he removed to Yarmouth, where he organized an "irregular" church composed of his Barnstable friends and of critics of "the settled minister," Marmaduke Matthews, "witty and learned, but not distinguished for depth of thought or sound judgment."

Among Hull's stanch supporters was one Dr. Thomas Starr, not however an ancestor of the apostle of religious freedom, Thomas Starr King. All these men were now

attacked as "scoffers, jeerers of religion, and as disturbers of the proceedings of a town meeting"; the Barnstable church, moreover, "hurled letters of excommunication against Hull and his followers," but without effect. They then appealed to the civil authorities, and a warrant was issued for Hull's arrest "for the crime of preaching at Yarmouth, he being an excommunicated person!" In this juncture, although not daunted by the spiritual weapons employed, "as a good citizen, he felt bound not to resist the civil authority." He therefore abandoned the fight, and left Yarmouth for Dover, then near the extreme edge of settlement. But trouble still pursued, and his presence in Dover "gave great offense to the Governor [Winthrop] and the other delegates of the United Colonies of New England, who held their first meeting in Boston in May, 1643."

Furthermore, because "the little town of Dover had elected a mechanic to be its mayor and called Mr. Hull to be its minister," the Colony, then known as "Georgiana" (the patent of Sir Fernando Gorges, including territory now in New Hampshire and Maine), was denied by the Governor and his Council the right of membership in the United Colonies. Had it been admitted, "other counsels might have prevailed and perhaps some of the long, bloody, and cruel wars between the English on one side and the French and Indians on the other might have been avoided."

That Hull was never really "a contentious man," nor even opinionated or selfish, seems to be true, for statements by Lothrop and Cotton Mather are said to have fully vindicated him. Indeed, "every recorded act of his life exhibits him as a man of peace, of a quiet and yielding disposition, as a sincere man, and a good Christian."

Nevertheless, I find that once when his pulpit at Dover was invaded by a Quakeress, it was charged that "old Mr. Hull, in leading Mary out, pinched her arm," though later that day he "allowed the Quakeresses to do as their

spirit moved." Finally, "to avoid all contests he crossed to the Isles of Shoals." There, "in those desolate islands where rocks and sterility contend for the mastery, where a single spring furnishes the water, and the people breakfast, dine, and sup on fish, there being nothing to tempt intrusion, poor Mr. Hull spent the remainder of his days and died in peace."

THOMAS WIGHT founded in Dedham in 1644 the first free, tax-supported school of Massachusetts; "taking into consideration the great necessitie of providing some meanes for the education of youth in ye said towne (the people) did with unanimous consent declare by voate their willingness to promote that worke, promising to put too their hands to provide maintenance for a free school in our said towne." Wight also assisted in the erection of an Indian village at Natick, and was founder of the town of Medfield. Moreover, he and his sons took an active interest in the building of "the new brick college at Cambridge" (Harvard), to which Wight pledged himself to give each year "4 bushelles of Endian Corne."

THOMAS GRAVES, a sea-captain by profession, a very active and brave man, owner of "the first vessel ever built in Boston for foreign trade," was made Rear Admiral in the British Navy for "good service in the English Channel." His daughter Rebecca married Captain Samuel Adams, son of Henry Adams of Braintree, ancestor of President John Adams; and their daughter, Rebecca Adams, married John Waldo, one of Emerson's ancestors.

JOHN COGSWELL sailed from Bristol in 1635 on the *Angel Gabriel*, a craft of "240 tunne," "a strong ship and furnished with 14 or 16 pieces of ordnance." Richard Mather, who came in a sister ship, the *James*, thus records the fate of the former:

> Ye Angel Gabriel being yn at ancre at Pemmagind, was burst in pieces and cast away in ye storme, and most of ye cattell and other goodes, with one seaman and three or four passengers, did also perish therein, besides two of ye pas-

sengers yt [that] dyed by ye way. Ye rest having yr lives given yne for a prey. But ye James and wee yt were therein with cattell and goodes were all preserved alive. The Lord's name be blessed forever!

Cogswell's daughter Hannah married Deacon Cornelius Waldo of Ipswich, a native of Berwick, Wiltshire. Cornelius was a descendant of Thomas Waldo, brother of Peter, the religious reformer who died in 1179. To William Spowell of Boston was assigned the duty "to see that all ye hogs were yoked and ringed," and later he was paid "for looking at ye boyes in ye meeting house." Samuel Allen was a partner of Miles Standish.

Joseph Morse is described as a public-spirited citizen:

> Also from the uncommon education in his family, and the references in his will to copies of precious religious books, it is inferred that he was a person of standing and piety, and that by his prayers and godly examples, as well as by his sacrifices and enterprizes, he has imposed obligations on his race which it is hoped they will acknowledge by a monument to his memory.

Sergeant William Foster of Canterbury, Connecticut, was "specially zealous in defending the Church against minesterial usurpation." In fact, he openly declared that the minister (Mr. Moseley) "had lied" and that he "could prove it" — also that he "saw the pope's horns begin to bud some years ago and now they were growing out." In April, 1775, Foster was one of those "who marched from Connecticut towns to the relief of Boston in the Lexington Alarm," when Paul Revere made his noted midnight ride.

Captain John Holly, a judge in New Haven, grandson of Samuel Holly of Cambridge, spent his life in the public service. His son, another Samuel Holly,[1] estab-

[1] As already explained (Chapter 1, page 5), in or about the year 1815 some of the great-great-grandchildren of this Samuel Holly — namely, the sons of (the Reverend) Sylvanus Holly, Jr., and Huldah Lake, Sylvanus' first wife, my great-grandmother — changed the surname to Hawley.

lished in Stamford in 1702 a private school which was accepted in town meeting in the following language:

Ye town doth say that they doth accept ye present scoole kept by ye person to teach to reade English and to write and to arrithmetick, is a scoole according to lawe.

Lieutenant WILLIAM FOWLER, one of the Puritan prisoners in the Bridewell in 1592, who came to New Haven in 1637, was among the few colonists having a classical education, becoming the first magistrate of New Haven, and one of the "seven pillars of the church." His son, Captain William Fowler, was also active in colonial affairs.

JOHN ELDERKIN was a "builder of corn-mills and churches," erecting one of each at Lynn, Dedham, Reading, Providence, New London, Norwich, and Killingworth. JOHN ELDERKIN WALDO of Canterbury, Connecticut, was a prominent attorney and judge, an uncompromising Federalist in his day.[1]

THOMAS LAKE was the only one of all these colonial worthies who adhered to the Church of England, he having been "a pew holder in the Episcopal Church in Stratford in 1745"; and later (1747) his son Joseph "consented to articles of faith on the organization of the North Stratford Church."

Several of my ancestors took part in the War of the Revolution. These were:

John Jordan, born at Litchfield, Connecticut, 1750, afterward of South Brimfield, Massachusetts, and Moriah, New York; also fought in the War of 1812;
Captain William Fowler of New Haven;
Sergeant William Foster of Canterbury;
Joseph Lake of Stratford and Sharon.

To these people as a whole the fine words of Starr King are truly applicable:

When they found that all which civilization had done for

[1] See Chapter 1, page 5.

the old world did not nourish, but threatened to crush their manliness, they came to the wilderness to show, on a background of ice, granite, and famine, that humble devotion to duty, reverence for the right, and the vigorous will, will make men masters of the world, and compel the storm winds, the bleak shore, and the untamed forests to welcome and cherish their spirits and ideas.

Historically, as Dr. Charles W. Wendte has shown, the Puritans were the ancestors of one third the population of the United States a century later, and of nearly one fifth today. From 1630 to 1635, 21,200 persons (4000 families) came over from England — "largely country squires and yeomen, thrifty, industrious, decorous, liberty-loving, and religious." To this day their influence and institutions predominate in the civic, educational, and religious life of the American community.

2

Studies of Puritan ancestry in New England show clearly the effects of the law of primogeniture upon the English people. The eldest sons of "good families" or of the nobility naturally developed into Royalists and Cavaliers; younger sons and daughters' sons, left without inheritance, became as easily Roundheads, Dissenters, and Puritans. The legend on one of Cromwell's battle flags asked: "Why should the elder son have everything and we nothing?" To put it another way, why should "blue blood" be supposed to flow in the veins of the first born only?

Fortunately, those exposed to the deteriorating influences of ease and unearned power were few in number, a conspicuous minority. The others became part of the mass of commoners who have made England great. Samuel Johnson once cynically observed that primogeniture is an excellent thing, as "it ensures that there shall be but one fool in the family!" Happily it also

provides that the high qualities which once set nobleman apart from peasant shall be spread through the whole body of the people by means of a constant transfusion from the "first estate" to the third. The lack of such a system left France, especially, to be overrun by a hungry and impecunious nobility.

Records gathered by Mr. Edwards, supplemented by a series of unpublished charts prepared for me by Miss Kimball, a well-informed genealogist, show plainly the method by which the diffusion takes place. The daughter of a king, for example, marries a nobleman; one of her descendants takes a squire or younger son; a daughter of the squire marries a yeoman, whose children are thus of kingly descent. And every New England farmer of Puritan lineage may boast of as much of the germ plasm of William, Alfred, or Charlemagne as any royal household in Europe; reversedly, plebeian blood may be mingled with the "bluest," usually to the betterment of both. As a matter of fact, indeed, very few Englishmen or Americans of English origin are without royal blood; nor is it likely that the coat of arms of any king living does not conceal the bar sinister of the peasant.[1]

Moreover, Miss Kimball's studies show that some hundreds of well-known Americans may trace their ancestry to Isabel de Vermandois, a descendant of Charlemagne, who married successively Robert de Bellomont and William de Warren. Doubtless millions of others could uncover for themselves the same lineage should they take the trouble. Nevertheless, my assertion of royal descent for the average New England farmer was questioned by G. G. Coulson, a Cambridge don, who declared it "absurd." Upon my having argued the case, adding that many other absurd things are also true, he finally admitted that it might be the fact with those descended from "good families of the County"!

[1] This whole subject was treated somewhat fully by me in "The Heredity of Richard Roe," 1911.

In this connection it should be noted that as each individual has had two parents, four grandparents, eight great-grandparents, and so back endlessly in geometrical progression, every one of Isabel's adult twentieth-century descendants would, if the facts permitted, count not less than 134,192,256 separate ancestors at the beginning of her era, the twelfth century. Furthermore, as in such a progression the sum of the series is equivalent (minus one) to its highest term, each descendant should have 134,192,255 intervening forebears, making 268,384,511 in all. Again, each child of this generation has twice as many ancestors as either parent — that is, 536,769,022 in all, of which incalculable number not one would have died in infancy, or without issue. This, however, has led us to figures manifestly impossible in view of the fact that the total population of England in 1100 did not exceed two millions, and that probably not one tenth of these, beset as they were by war and pestilence, left permanent descendants.

The simple explanation is, of course, that each forebear must be counted over and over thousands or millions of times in each individual case. Indeed, no one can guess how many tangled lines lead down to him from Isabel, or even from Edward I.

Conversely, if every couple of the twelfth century, and of all succeeding ones, left let us say on the average four children, thus doubling their own number with each generation, Isabel's descendants alone, facts permitting, should now number 134,192,256, as would the descendants of every other pair similarly fertile, the whole yielding a nominal total far exceeding the present population of the globe! Thus in this matter, also, intervening individuals must be reckoned over and over again almost to infinity.

A boasted "line of long descent" is therefore the merest fragment of a man's genealogy, and differs from other lines only in being for a time a shade more con-

spicuous, or because some one has taken the pains to trace and record it. On the other hand, the broad resemblances called racial traits result more or less definitely from blood relationship due to common descent, and it is not without reason that Miss Kimball has called the English people "the inbred descendants of Charlemagne."

3. A FEW PURITAN LINES LEADING BACK TO ISABEL

Drake-Waldo-Jordan Ancestry

William de Warrenne, m. Gundred, stepdaughter of William I
William de Warren, Earl of Surrey, etc., second husband of Isabel de Vermandois, 1101, both descended from Charlemagne
Ada de Warren, m. Henry of Scotland, Earl of Huntingdon
Margaret de Warren, m. Humphrey de Bohun IV, Earl of Hereford and Essex
Henry de Bohun, surety for King John in Magna Charta
Humphrey de Bohun V, "the Good," m. Matilde Exouden
Humphrey de Bohun VI, m. Eleanor de Braose
Humphrey de Bohun VII, m. Maud de Fiennes
Humphrey de Bohun VIII, m. Elizabeth de Plantagenet, Countess of Holland, daughter of King Edward I and Eleanor of Castile
Lady Margaret de Bohun, m. Sir Hugh de Courteney, Earl of Devon, who died in 1377
Edward Courteney, of Goderington, Devon, m. Emeline d'Auney
Sir Hugh Courteney, of Haccomb, m. Maud Beaumont, d. 1468
Margaret Courteney, m. Sir Theobald Grenville
Sir William Grenville, of Bideford, m. Philippa Bonville
Thomas Grenville, of Stowe, Cornwall, m. Elizabeth Gorges
Sir Thomas Grenville, of Stowe, m. Elizabeth Gilbert, d. 1494
Sir Roger Grenville, of Stowe, m. Margaret Whitleigh
Amy Grenville, m. John Drake
Robert Drake, of Wiscombe Park, Devon, m. Elizabeth Prideaux, d. 1550
William Drake, of Wiscombe Park, m. Philippa Denys, d. 1592

John Drake, of Windsor, Connecticut, born 1584, came to Boston 1636, m. Elizabeth Rogers, d. 1659

Elizabeth Drake, m. John Elderkin
John Elderkin, Jr. of Reading, m. Abigail Fowler
Colonel John Elderkin, m. Susannah Baker
Abigail Elderkin, m. Edward Waldo, Jr.
Zachariah Waldo, of Windham, m. Elizabeth Wight
John Elderkin Waldo, of Canterbury, m. Beulah Foster
Anne Waldo, m. David Hawley
Huldah Lake Hawley, m. Hiram Jordan
David Starr Jordan, of Palo Alto, m. Jessie Knight
Knight Starr Jordan, m. Iona Knight
Lee Knight Jordan, born 1916

Ancestry of Dr. Charles William Eliot

Robert de Bellomont, Earl of Leicester, first husband of Isabel de Vermandois
Robert de Bellomont
Margaret de Bellomont, m. Saier de Quincy, Earl of Winchester
Roger de Quincy
Margaret de Quincy, m. William de Ferrers, Earl of Derby
Lord William Ferrers
Joan de Ferrers, m. Thomas, Baron de Berkeley
Margaret de Berkeley, m. Sir Anselme Bassett

Isabel Bassett, m.—— Pynchard	Giles Bassett
Symond Bassett	Robert Bassett
Sir Edmund Pynchard Bassett	William Bassett
Sir Symond Bassett	Edward Bassett

Jane Bassett, m. Dr. John Deighton

Katherine Deighton (second wife), m. Thomas Dudley, Governor of Maine, 1634

Joseph Dudley	Catherine Atkins, m. Samuel Eliot
Mary Dudley, m. Captain Joseph Atkins	Samuel Atkins Eliot, m. Mary Lyman
Dudley Atkins	

Charles William Eliot

Ancestry of Oliver Wendell Holmes

Robert de Bellomont, Earl of Leicester and Surrey, first husband of Isabel de Vermandois
Robert de Bellomont, Earl of Surrey
Margaret de Bellomont, m. Saier de Quincy, Earl of Winchester

Roger de Quincy
Margaret de Quincy, m. William de Ferrers
Lord William Ferrers, Earl of Derby
Anne de Ferrers, m. Baron John de Grey
Baron Henry de Grey
Baron Reginald de Grey
Baron Reginald de Grey
Baron Henry de Grey
Margaret de Grey, m. Baron John d'Arcy
Baron John d'Arcy
Richard d'Arcy
Baron William d'Arcy
Joan d'Arcy, m. Sir Richard Yorke
Edmund Yorke
Albert Yorke
Edmund Yorke

Dorothy Yorke, first wife of Thomas Dudley
Anne Dudley, m. Governor Simon Bradstreet
Dr. Samuel Bradstreet
Mercy Bradstreet, m. Dr. James Oliver
Sarah Oliver, m. Colonel Jacob Wendell
Judge Oliver Wendell
Sarah Wendell, m. Rev. Abiel Holmes
Dr. Oliver Wendell Holmes, m. Amelia Lee Jackson
Justice Oliver Wendell Holmes

The ancestry of Phillips Brooks, as well as of most other New Englanders, unites with that of Eliot and that of Holmes in the marriage of Robert de Bellomont and Isabel de Vermandois.

ANCESTRY OF PHILLIPS BROOKS

Robert de Bellomont, m. Isabel de Vermandois
Elizabeth de Bellomont, m. Gilbert de Clare, Earl of Pembroke
Richard de Clare, "Strongbow," Earl of Pembroke
Isabel de Clare, m. William de Mareschal, Earl of Pembroke
Eve de Mareschal, m. William, Baron de Braose
Maude Braose, m. Sir Roger Mortimer
Sir Edmund Mortimer, Earl of March
Sir Roger Mortimer

Sir Roger Mortimer
Edmund Mortimer
Elizabeth Mortimer, m. Sir Henry Percy, "Hotspur," Earl of Northumberland
Henry Percy, Earl of Northumberland, m. Eleanor Neville
Henry Percy
Margaret Percy, m. Sir William Gascoigne
Dorothy Gascoigne, m. Sir Ninian (? Vivian) Markenfield
Alice Markenfield, m. Robert Mauleverer
Dorothy Mauleverer, m. John Kaye
Edward Kaye
Robert Kaye

Grace Kaye, m. Sir Richard Saltonstall, founder of Watertown, Massachusetts
Colonel Nathaniel Saltonstall
Gurdon Saltonstall, Governor of Massachusetts
Elizabeth Saltonstall, m. Dr. Roland Cotton
Joanna Cotton, m. Rev. John Brown
Abigail Brown, m. Rev. Edgar Brooks
Cotton Brown Brooks
William Gray Brooks
Phillips Brooks

My own ancestry and that of Ralph Waldo Emerson enter that of Phillips Brooks through the Gascoigne-Percy union in England, from which the New England Dimmocks are descended:

Gilbert de Talboys, m. Elizabeth Gascoigne, daughter of Sir William Gascoigne and Margaret Percy
Sir George de Talboys
Anne de Talboys, m. Sir Edward Dymoke (Dimmock)
Arthur Dymoke
Edward Dymoke

Thomas Dimmock of Barnstable, Massachusetts, m. Ann Hammond
Shubael Dimmock, m. Joanna Bursley
Thankful Dimmock, m. Edward Waldo

4

From Robert de Bellomont and Isabel de Vermandois are also descended the following:

John Adams
John Quincy Adams
Thomas Jefferson
John Randolph
Robert Treat Paine
Wendell Phillips
William Ellery Channing

George Washington
Abraham Lincoln
Theodore Roosevelt
Charles Sedgwick Minot
William T. Sedgwick
Ellery Sedgwick
Aaron Burr
Benedict Arnold
Timothy Dwight
Theodore Woolsey
Daniel C. Gilman
Merrill E. Gates

Alexander Spottiswoode
Grover Cleveland
Charles Carroll
Roger Brooke Taney
Nathaniel Bacon
George Dewey
Thomas Campbell

Francis Parkman
Edward Everett
Ralph Waldo Emerson
James Smithson
Ralph Lane
J. Pierpont Morgan
John D. Rockefeller
Robert E. Lee
Benjamin Harrison
Richard H. Dana
Ulysses S. Grant

Edward IV and the House of York
Henry VII and the House of Tudor
Philip I
James I and the House of Stuart
Georges I–V
Victoria
Edward VII

Louis XV and the House of Bourbon
Victor Emanuel II
Francis Joseph and the House of Hapsburg
Wilhelm II and the House of Hohenzollern
Leopold II
Alfonso VII
Manuel

It will perhaps interest my readers to know further that — like Phillips Brooks and myself — all persons in the above list beginning with George Washington spring

not only from Isabel, but also from Eve de Mareschal, one of her many great-great-granddaughters.

5

Intrigued by a whole background of heredity, romance, and adventure, while on St. Paul of the Pribilofs I wrote the following poem:

To Lady Alice Courteney[1]

(Alice, daughter of Pierre — by courtesy Lord of Courtenay, son of Louis VI, "le Gros," a descendant of Charlemagne — and Isabella de Courtenay, heiress of the estates of Devon, by marrying Aymar (Edmund) de Taillefer, lord of Angoulême, a descendant of the swordsmith

Taillefer who sang
Till the hills of Hastings rang,

became mother of Isabel de Taillefer, wife of King John and thus ancestress of a series of kings, and of a long line of Cavaliers and Puritans in England and America, whereof the end is not yet.

Courtenay, a town in Île de France, is the original home of the Courteney forebears, said to be of Danish descent.)

I have seen thy name today,
Lady Alice Courteney,
As a treasure brought to me
From the mines of history.
'Tis a stately Norman name
Of a fair and stately dame,
And the picture that it brings
Of long-vanished stately things
Comes to me as keen and clear
As a painted miniature.

As I gaze, they pass away,
All the vistas of today,
All the battles I have fought,
All the deeds my hands have wrought,
All the golden light that fills
Sunny Santa Clara's hills!

Unsubstantial as a dream
Does my lone mist-island seem,

[1] Original English spelling of the family name.

With its flower-bespangled moss
Wet by wayward waves that toss
Flotsam from the farthest lands
Over Zoltoi's shining sands;
Still the cold gray cloud above,
Sleep-cap of the Pribilof!

Now in darkling mist and spray,
Let the great globe fade away,
(*All that is become as naught*
In the vagrant world of thought)
Cast off seven hundred years,
With their load of hopes and fears,
And a fragrance comes to me,
Rose leaves pressed in history,
Sweetly strange and strangely sweet;
Lady Alice, may it be
I am here alone with thee?
Let me kneel then, at thy feet.
Ghosts from ghosts have naught to fear,
White the hand I kiss, my dear!

Thus I pass thy guarded gate
Where thy mailed retainers wait;
They will neither know nor care,
For I tread with feet of air
To thy walls of cold gray stone
Where the daylight never shone,
Dismal halls that ne'er could be
Sun-illumined save by thee!

I can see thee decked for show
In the robes of long ago,
Brocades rich as tapestry,
Laces, silks, and jewelry —
All the far-sought finery
Men have fancied meet for thee.
Roses bloom along thy way,
(*Thou a fairer rose than they*)
Pink-tipped daisies from the grass
Nod their welcome as you pass;

In the corn fields here and there
Scarlet poppies flame and flare;
From the hawthorn's greenery
Sweet the thrush's call to thee,
And the skylark soaring high
Trills his anthem to the sky —
Lady Alice Courteney,
Fair are Devon fields in May!

See I from the turret-tower
Where my lady has her bower,
Far beyond the castle walls
Slope the green fields toward the south:
There thy river finds its mouth
And the great sea swells and falls,
There the salt white spray is thrown
O'er the rocks of Eddystone;
While above the curving bay
In its terraces of gray
Stern and stolid Plymouth town
Watches with ascetic frown
All that come and all that go
On the blue waves to and fro,
To the line of hills that rise
Faint against the southern skies,
Where the alien people be —
The white cliffs of Brittany!

All this have I seen today,
Lady Alice Courteney,
As it chanced thy Norman name
On the page before me came:
What but name is left to thee?
What is such a name to me?

Lady Alice Courteney,
Thou hast lived and loved for me.
(*Fairer thou than any rose*
That in Devon's garden grows!)
Lady, thou wert made for Love,
Love had much to give to thee.

Through the long years coming, going,
Ever is thy life-blood flowing
From the hearts of noble earls,
Through the veins of common churls,
Knight and lady, boor and clown,
As the ages follow down;
Of one blood the nations be,
Of one blood art thou with me!

See the rush of history,
Strewn with cast-off finery,
And the way of common things,
Cluttered with the pomp of kings!

Now in dim perspective seen
As the centuries roll away,
Generations vanishing
Move across the changing scene,
Knights and squires and men at arms,
Captains of the men-o'-war,
Masters of the Devon farms,
Priests and bishops here and there,
Puritan and Cavalier;
Some in silks and laces fine,
Some in simple hodden gray,
Children all of thee and thine,
Of thy blood of Courteney.

Theirs the shame and glory set
In thy fame, Plantagenet!

Once upon Saint Crispin's day
'Twas the blood of Courteney
Stained thy meadows, Agincourt!
Swiftly through the veins it flows
As the fire of battle glows;
Proudly when the Virgin Queen
Rode the loyal ranks between;
Sternly when at Marston Moor,
On the heath in suppliance kneeling,
Not to England's lord appealing,
But the Lord of Hosts before!

Men of Devon once fought on
Till a day and night were gone.
"What is one day less or more
On the sea or on the shore?"

The Revenge was but a wreck,
Broken, blood-washed was her deck:
"Sink her, split her sharp in twain,
Fall in God's hands, master gunner,
Never into clutch of Spain!"

But at last the Dragon [1] came
Stinging, scorching far and near,
Blasting with his tongue of flame
The fair homes of Devonshire,
And hot feelings unsuppressed
Surged in every Devon breast
Till the signal in His name
"To the watching Pilgrims came."
Then for home and conscience' sake,
With the rest fled Goodman Drake,
That, God helping, o'er the sea
Build they a new England, free.

Grim, austere, and stern were they,
Errant sons of Courteney,
But free born, of hardy stock;
Never in the Pilgrim's grave
Lay the weakling or the slave, —
Dust to dust, but rock to rock.

Whatsoe'er their rank or fame,
Lady Alice all must claim;
Lady, wouldst thy children scan,
Thou shalt see the Common Man.
As the centuries come and go,
Through their veins thy blood shall flow;
For the fairest Time has molded
Or in softest garments folded,

[1] An allusion to the Dragon Persecution of Dissenters about the year 1600.

Comes at last in nature's plan
To her simple Common Man.

And thus hast thou come to me,
Lady Alice Courteney!

July 26, 1896

The following table indicates the relation of Lady Alice de Courteney to Lady Margaret, already mentioned:

Alice de Courteney, m. Aymar (Edmund) de Taillefer, Comte d'Angoulême
Isabella de Taillefer d'Angoulême, m. King John
Henry III, b. 1216, m. Eleanor de Berenger of Provence
Edward I, b. 1239, m. Eleanor of Castile, daughter of Ferdinand III, San Fernando Rey de España
Elizabeth Plantagenet, m. Humphrey de Bohun VIII
Margaret de Bohun, m. Hugh de Courteney, Earl of Devon
Edward Courteney, m. Emeline Dawney (d'Aunay)
Sir Hugh Courteney, m. Maud Beaumont
Margaret Courteney, m. Sir Theobald Grenville

The Courteney male line descends through Robert, uncle of Lady Alice, as follows:

Sir Reginald de Courteney came with Henry II to England in 1151, and then married Hawise Deincourt de Abrincis, heiress of Devon;
Robert de Courteney, m. Mary de Redvers
John de Courteney, m. Isabel de Vere
Sir Hugh de Courteney, m. Eleanor de Spencer
Baron Hugh de Courteney, Earl of Devonshire, m. Agnes St. John
Hugh de Courteney III, m. Margaret de Bohun
Edward de Courteney, m. Emeline Dawney
Sir Hugh de Courteney IV, m. Maud Beaumont
Margaret de Courteney, m. Sir Theobald Grenville

The descent of the British people from Charlemagne must, of course, have led down along a myriad of lines. Specifically, four of these have been traced in the preceding pages:

(*a*) Through Isabel de Vermandois from her father, Hugh the Great, son of Henry I of France; and
(*b*) Through Isabel from her mother, Adelheid de Vermandois;
(*c*) Through Lady Alice de Courteney, from her father Pierre;
(*d*) Through the Plantagenets and their descendants, from Matilda of Flanders, wife of William the Conqueror, herself descended from Charlemagne and Alfred alike.

Of Charlemagne, our common forebear, we read that

> He was sagacious, energetic, and vigilant as a ruler and commander alike. He watched over and fostered agriculture, trade, art, and letters, with untiring zeal, clearing away forests, draining swamps, founding monasteries and schools, building cities, constructing splendid palaces as at Aix, Worms, and Ingelheim and drawing to his court scholars and poets from all nations. . . . He was himself proficient in science as well as in all hardy accomplishments, speaking Latin and knowing Greek though barely able to write. He was tall and stately, measuring seven feet of his own foot-lengths, with long nose, bright eyes and a feeble voice, but simple in his life, "excelling all men of his time, to all alike dread and beloved, by all alike admired," as he was described by the early chronicler, Eginhard.

But according to Mr. H. G. Wells, "the memory of that raiser of political ghosts, that energetic but illiterate theologian, Charlemagne . . . preaching the gospel with fire and sword . . . as with Alexander the Great and Julius Cæsar has been enormously exaggerated by posterity," a habit which runs in his family. But we must consider the dark and bloody background of ignorance and intolerance before which arises his stately figure. It was left to our own generation to crumple the last of his pasteboard imitations.

As for Alfred, Charlemagne's contemporary, a modern historian says:

> Alike for what he did and for what he was there is none to equal Alfred in the whole line of English sovereigns; and no monarch in history ever deserved more truly the epithet of Great.

B

Inaugural Address, Stanford University, October 1, 1891

We come together today for the first time as teachers and students. With this relation the life of the Leland Stanford Junior University begins. It is such personal contact of young men and young women with scholars and investigators which constitutes the life of the university. It is for us as teachers and students in the university's first year to lay the foundations of a school which may last as long as human civilization. Ours is the youngest of the universities, but it is heir to the wisdom of all the ages, and with this inheritance it has the promise of a rapid and sturdy growth.

Our university has no history to fall back upon; no memories of great teachers haunt its corridors; in none of its rooms appear the traces which show where a great man has lived or worked. No tender associations cling, ivy-like, to its fresh, new walls. It is hallowed by no traditions. It is hampered by none. Its finger posts all point forward. Traditions and associations it is ours to make. From our work the future of the university will grow, as the splendid lily from the modest bulb.

But the future, with its glories and its responsibilities, will be in other hands. It is ours at the beginning to give the university its form, its tendencies, its customs. The power of precedent will cause to be repeated over and over again everything that we do — our errors as well as our wisdom. It becomes us, then, to begin the work modestly, as under the eye of the coming ages. We must lay the foundations broad and firm, so as to give full support to whatever edifice the future may build. Ours is the humbler task, but not the least in importance, and our work will not be in vain if all that we do is done in sincerity. As sound as the rocks from which these walls are hewn should be the work of every teacher who comes within them.

We hope to give to our students the priceless legacy of the educated man, the power of knowing what really is. The higher education should bring men into direct contact with truth. It should help to free them from the dead hands of old

traditions and to enable them to form opinions worthy of the new evidence each new day brings before them. An educated man should not be the slave of the past, not a copy of men who have gone before him. He must be in some degree the founder of a new intellectual dynasty; for each new thinker is a new type of man. Whatever is true is the truest thing in the universe, and mental and moral strength alike come from our contact with it. We may teach the value of truth to our students by showing that we value it ourselves. In like manner, the value of right living can be taught by right examples. In the words of a wise teacher, "Science knows no source of life but life." The teacher is one of the accredited delegates of civilization. In Heine's phrase, he is a Knight of the Holy Ghost. The harvest is bounteous, but the laborers are still all too few; for a generous education should be the birthright of every man and woman in America.

I shall not try today to give you our ideal of what a university should be. If our work is successful, our ideals will appear in the daily life of the school. In a school, as in a fortress, it is not the form of the building, but the strength of the materials, which determine its effectiveness. With a garrison of hearts of oak, it may not matter even whether there be a fortress. Whatever its form, or its organization, or its pretensions, the character of the university is fixed by the men who teach. The university spirit flows out from these teachers, and its organization serves mainly to bring them together. "Colleges can only serve us," says Emerson, "when their aim is not to drill, but to create; when they gather from afar every ray of various genius to their hospitable halls, and by their concentrated fires set the heart of their youth in flame." Strong men make universities strong. A great man never fails to leave a great mark on every youth with whom he comes in contact. A professor to whom original investigation is unknown should have no place in a university. Men of commonplace or second-hand scholarship are of necessity men of low ideals, however much the fact may be disguised.

And above and beyond all learning is the influence of character, the impulse to virtue and piety which comes from men whose lives show that virtue and piety really exist. For the life of the most exalted as well as the humblest of men, there

can be no nobler motto than that inscribed by the great scholar of the last century over his home at Hammarby: "*Innocue vivito; numen adest.*" Live blameless; God is near. "This," said Linnæus, "is the wisdom of my life." Every advance which we make toward the realization of the truth of the permanence and immanence of law, brings us nearer to Him who is the First Cause of all law and all phenomena.

While the work of the teachers must make the kernel of the university, we rejoice that here at Palo Alto even the husks are beautiful. Beauty and fitness are great forces in education. Every object with which the young mind comes in contact leaves on it its trace.

Plain living has ever gone with high thinking. But grace and fitness have an educative power too often forgotten in this utilitarian age. These long corridors with their stately arches, these circles of waving palms, will have their part in the students' training as surely as the chemical laboratory or the seminary room. Each stone in the quadrangle shall teach its lesson of grace and of genuineness, and occupy a warm place in every student's heart. Pictures of this fair region will cling to his memory amid the figures of the draughting-room. He will not forget the fine waves of our two mountain ranges, overarched by a soft blue Grecian sky, nor the ancient oak trees, nor the gently sloping fields, changing from vivid green to richest yellow, as the seasons change. The noble pillars of the gallery of art, its rich treasures, the choicest remains of the ideals of past ages — all these, and a hundred other things which each one will find out for himself, shall fill his mind with bright pictures, never to be rubbed out in the wear of life. Thus in the character of every student shall be left some imperishable trace of the beauty of Palo Alto.

The Golden Age of California begins when its gold is used for purposes like this. From such deeds must rise the new California of the coming century, no longer the California of the gold-seeker and the adventurer, but the abode of high-minded men and women, training in the wisdom of the ages, and imbued with the love of nature, the love of man, and the love of God. And bright indeed will be the future of our state if, in the usefulness of the university, every hope and prayer of the founders shall be realized.

C

Extracts from Certain Personal Letters of Mrs. Jane Lathrop Stanford

After the decision of Judge Ross (July 6, 1895), Mrs. Stanford wrote:

I dare not let my soul rejoice over the future. It must be more sure than it is now. I hope and pray that the final decision will be as sure as the first. It means more to me than you or the world have dreamed. It means an unsullied, untarnished name as a blessed heritage to the university. My husband often used to say: "A good name is better than riches." God cannot but be touched by my constant pleading, and this first decision by Judge Ross makes me humble that I so unworthy should have received the smallest attention.

On July 29, 1895, she wrote:

I send a precious letter from Mr. Andrew White for you to read. I read it with a heart running over with various emotions. Mr. Stanford esteemed him so highly I could not but feel like asking God to let my loved ones in heaven know the contents of this letter. I prize this letter beyond my ability to express. It lifted my soul from its heaviness. My heart is one unceasing prayer to the All Wise, All Merciful one, that all will be well for the future of the good work under your care. When the end of our troubles is over, all [these letters] will be placed in your hands for future reading by our students, a story for them when I have passed into peace.

Soon after, she wrote:

I return herewith Mr. Choate's kind letter. God bless him, for he was a friend indeed.

Again, on August 15, 1895:

It gives me great satisfaction to read Professor Stillman's letter. I perceive, besides loyalty to the university, the noble, tender loyalty to my husband's memory. . . . I prize him as a professor, for he was the only selection made by Mr. Stanford. He knew him well and judged his character rightly, as this act

on his part has proved. . . . I always enjoy my home-coming. Even its desolation is sacred to my heart. It holds many dear memories that no one on earth knows but myself.

On November 24, 1895:

It has been my policy to say as little about my financial affairs to the outside world as possible, but I feel sure that I am doing myself and our blessed work injustice by allowing the impression among all classes to feel certain there is plenty of money at my command, that the future is assured, the battle fought and won. . . . I only ask righteous justice. I ask not for myself, but that I may be able to discharge my duty and loyalty to the one who trusted me, and loved me, and loves me still. I am so poor myself that I cannot this year give to any charity; not even do I give this festive season to any of my family. I do not tell you this, kind friend, in a complaining way, for when one has pleasant surroundings, all we want to eat and wear, added to this have those in their lives we can count on as friends, it would be sinful to complain. I repeat it only that you my friend may know, I ask only justice to the dear ones gone from earth life and the living one left.

I am willing you should speak plainly to any one who may question as to the university or myself. I have many devoted and true loyal friends in Washington, and I am sure did they know I was kept from my rights, they would speak their sentiments openly, and when it was known a public sentiment was in my favor and against their unfairness, it would cause a different course to be pursued toward me. I shall henceforth speak plainly, and I desire you to do so. You will meet our good President, Mr. Cleveland, my good and true friend Secretary Carlisle, Mr. John Foster and many others, and you . . . can do our blessed work good and God will bless the act, and bring fruit to bear from the seeds sown. I have kept myself and my affairs in the background. It has been an inspiration from the source from which all good comes, from my Father, God — I trust Him to lead me all along the rest of the journey of life. He has led me thus far through the deep waters, and joy will come, for He never deserts the widow, the childless, the orphan. I have His promise "blessed are those who mourn, for they shall be comforted.". . . Everything is

going on smoothly as far as I know at the university. The boys are wild over the game to be played. I hope they will win, because they will be happy if they do.

On July 20, 1896, she wrote to a candidate for a professorship:

The university still is restricted and limited in its ambitions and its aims, because of my inability to increase the number of students or the number of professors. The gift of $2,500,000 in bonds which I have by the grace of God been enabled to give to the trustees for the present and future maintenance of the university brings in a monthly income of $10,000, while the actual expenses for the faculty and the president and the necessary matters bring the sum total of expenses per month to $19,000. This $9000 I am obliged to furnish myself, through the strictest economy and the husbanding of resources; consequently I am not increasing expenses, but on the contrary shall retrench in the future.

From Paris, August 30, 1897, she wrote:

I wish the rest of my responsibilities caused me as little care as does the internal working of the good work. I am only anxious to furnish you the funds to pay the needs required. I could live on bread and water to do this, my part, and would feel that God and my loved ones in the life beyond this smiled on the efforts to ensure the future of my dear husband's work to better humanity.

Again, in 1897, to her trusted attorney, Russell Wilson:

I stand almost alone in this blessed work left to my care, and I want and need the president's support and his helpfulness in this work as far as he can support me. There are plenty who are interested in the affairs of the estate with me, but few in the university.

In July, 1898:

If I am able to keep the university in the condition it is now, I shall be more than thankful. $15,000 a month is a great expenditure, and exhausts my ingenuity and resources to such an extent that had I not the university so close to my heart

I would relieve myself of this enormous burden and take rest and recreation for the next year. But I prefer to see the good work going on in its present condition, and I am not promising myself anything further for the future until the skies are brighter than they are now.

On December 14, 1900, she repeats:

I could lay down my life for the university. Not for any pride in its perpetuating the names of our dear son and ourselves, its founders, but for the sincere hope I cherish in its sending forth to the world grand men and women who will aid in developing the best there is to be found in human nature.

As this volume contains the record of many friendships, I may perhaps be pardoned for reproducing here in conclusion a letter addressed by Mrs. Stanford to the president of the board of trustees, February 11, 1897:

Let me speak of the honored President of the University. Every year since his installment his superior abilities, his unshaken influence upon the Faculty and students, and in return their fidelity and loyalty to him have filled me with gratitude. That one so able, so scholarly, and yet so approachable by all classes of society, so willing and ready to lecture and aid all institutions throughout the state, many times making self-sacrifice to do so, should be among us, I am sure has caused California at large to feel that my husband was wisely led when he selected him for the position he so ably fills. As for myself I could say much in his praise, for he has tenderly and manfully helped to lighten my burdens, and assumes the cares and responsibilities of his position without any complaint, fearing to add to my cares. I will only add that my earnest and sincere prayer is that no circumstances may occur to take him from his present position during the years in which the responsibility rests upon me. And I would like to think that his connection with my husband in the past may serve as a link to bind him to the University for many years to come when good old age may still find him amid the scenes of dear old Palo Alto, blessed and honored by the citizens of California and the students and graduates that go forth every year to fill their places in life.

D

From "Lest We Forget"

The fact that the address bearing the above-mentioned title marked a turning point in my life seems to justify me in making here a somewhat extended quotation from it:

It is too late for us now to ask how we got into the war. Was it inevitable? Was it wise? Was it righteous? We need not ask those questions, because the answers will not help us. We may have our doubts as to one or all of these, but all doubts we must keep to ourselves. We are in the midst of battle, and must fight to the end. The "rough riders" are in the saddle. . . . The crisis comes when the war is over. What then? Our question is not what we shall do with Cuba, Porto Rico, and the Philippines. It is what these prizes will do to us. Can we let go of them in honor or in safety? If not, what if we hold them? What will be the reflex effect of great victories, suddenly realized strength, the patronizing applause, the ill-concealed envy of great nations, the conquest of strange territories, the raising of our flag beyond the seas? All this is new to us. It is un-American; it is contrary to our traditions; it is delicious; it is intoxicating.

For this is the fact before us. We have come to our manhood among the nations of the earth. What shall we do about it? The war once finished, shall we go back to our farms and factories, to our squabbles over tariffs and coinage, our petty trading in peanuts and post offices? Or shall our country turn away from these things and stand forth once for all a great naval power, our vessels in every sea, our influence felt over all the earth? Shall we be the plain United States again, or shall we be another England, fearless even of our own great mother, second to her only in age and prestige? . . .

The war has stirred the fires of patriotism, we say. Certainly, but they were already there, else they could not be

stirred. I doubt if there is more love of country with us today than there was a year ago. Real love of country is not easily moved. Its guarantee is its permanence. Love of adventure, love of fight, these are soon kindled. It is these to which the battle spirit appeals. Love of adventure we may not despise. It is the precious heritage of new races; it is the basis of personal courage; but it is not patriotism; it is push. The race which cannot fight, if need be, is a puny folk destined to be the prey of tyrants. But one who fights for fight's sake is a bully, not a hero. The bully is at heart a coward. To fight only when we are sure of the result, is no proof of national courage.

Patriotism is the will to serve one's country; to make one's country better worth serving. It is a course of action rather than a sentiment. It is serious rather than stirring. The shrilling of the mob is not patriotism. It is not patriotism to trample on the Spanish flag, to burn firecrackers, or to twist the Lion's tail. The shrieking of war editors is not patriotism. Nowadays, nations buy newspapers as they buy ships. Whatever is noisy, whether in Congress or the pulpit, or on the streets, cannot be patriotism. It is not in the galleries that we find brave men. "Patriotism," says Dr. Johnson, "is the last refuge of the scoundrel." But he was speaking of counterfeit patriotism. There could not be a counterfeit were there not also a reality.

But this I see as I watch the situation: True patriotism declines as the war spirit rises. Men say they have no interest in reform until the war is over. There is no use talking of better financial methods, of fairer adjustment of taxes, of wiser administration of affairs, until the war fever has passed by. The patriotism of the hour looks to a fight with some other nation, not toward greater pride in our own.

There are some who justify war for war's sake. Bloodletting "relieves the pressure on the boundaries." It whets courage. It keeps the ape and tiger alive in men. All this is detestable. To waste good blood is pure murder, if nothing is gained by it. To let blood for blood's sake is bad in politics as it is in medicine. War is killing, — brutal, barbarous killing, — and its direct effects are mostly evil. Too often the courage of brave men is an excuse for the depredations of venal

politicians. The glorious banner of freedom becomes the cover for the sutler's tent.[1]

The test of civilization is the substitution of law for war; statutes for brute strength. No doubt diplomacy, as one of our Senators has said, is mostly "a pack of lies," and arbitration may be compulsory and arbitrary compromise. But in the long run truth will out, even in diplomacy. . . .

Why, then, shall we not hold Cuba, if she becomes ours by right of conquest? Because that would be a cowardly thing to do. The justification of her capture is that we do not want her. If we want Cuba, common decency says that we must let her alone. Ours is a war of mercy, not of conquest. This we have plainly declared to all the nations. Perhaps we meant what we said, though the speeches in Congress do not make this clear. If we can trust the records, our chief motives were three: desire for political capital, desire for revenge, and sympathy for humanity. . . .

If we retire with clean hands, it will be because our hands are empty. To keep Cuba or the Philippines would be to follow the example of conquering nations. Doubtless England would do it in our place. The habit of domination makes men unscrupulous. . . .

There are three main reasons for opposing every step toward imperialism. First, dominion is brute force; second, dependent nations are slave nations; third, the making of men is greater than the building of empires. . . .

Though one in blood with England, our course of political activities has not lain parallel with hers. We were estranged in the beginning, and we have had other affairs on our hands. We have turned our faces westward, and our work has made us strong. We have had our forests to clear, our prairies to break, our rivers to harness, our own problem of slavery to

[1] This sentence I put into the form of epigrammatic verse:

O Freedom, I had dreamed that thou wert dying,
Thy banner Lincoln once, and Franklin bore
As Milton, Pym, and Hampden had before;
Low in the dust I seemed to see it lying,
And they who bore its sacred staff were trying
From its fair folds to frame a sutler's tent,
And thou unconscious while its web they rent.

adjust. We have followed the spirit of Washington's address for a hundred years, until the movement of history has brought us to the parting of the ways. Federalism or Imperialism — which shall it be?

But whatever the outcome of the present war, whatever the fateful twentieth century may bring, the primal duty of Americans is never to forget that men are more than nations; that wisdom is more than glory, and virtue more than dominion of the sea. The kingdom of God is within us. The nation exists for its men, never do men exist for the nation. "The only government that I recognize," said Thoreau, "and it matters not how few are at the head of it or how small its army, is the power that establishes justice in the land, never that which establishes injustice." And the will of free men to be just one toward another is our best guarantee that "government of the people, for the people, and by the people, shall not perish from the earth."

E

Appeal of the Anti-Imperialist League, 1899

We urge, therefore, all lovers of freedom, without regard to party associations, to coöperate with us to the following ends:

First, that our government shall take immediate steps toward a suspension of hostilities in the Philippines and a conference with the Philippine leaders, with a view of preventing further bloodshed upon the basis of a recognition of their freedom and independence as soon as proper guarantees can be had of order and protection to property.

Second, that the Congress of the United States shall tender an official assurance to the inhabitants of the Philippine Islands that they will encourage and assist in the organization of such a government in the islands as the people thereof shall prefer, and that upon its organization in stable manner the United States, in accordance with its traditional and prescriptive policy in such cases, will recognize the independence of the Philippines and its equality among nations, and gradually withdraw all military and naval forces.

Signed: George S. Boutwell, *President*
Francis A. Osborn, *Treasurer*
Erving Winslow, *Secretary*

Vice-Presidents

Charles F. Adams
Felix Adler
Edward Atkinson
L. W. Bacon
Samuel Bowles
Sam'l Bradford
John C. Bullitt
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John J. Valentine
Hermann von Holst
Herbert Welsh

Executive Committee

Winslow Warren
David Greene Haskins, Jr.
James P. Monroe
Albert S. Parsons
J. J. Myers

A later published list adds the names of Reverdy Johnson, Moorfield Storey, I. J. McGinity, and C. H. Parkhurst.

F

How Barbara Came to Escondité[1]

Once there was a little girl and she lived all alone in a little house up in the woods on a mountain, and the little house wasn't any bigger than this room; but it had in it a kitchen where she did her cooking, and a little dining room where she ate her dinner, and a little bedroom where she slept. The little bedroom had in it a little bed for the little girl and tiny beds for her dolls. And there were tables, dishes, pictures on the walls, and little electric lights to light up her room with when it was night with electricity that came from the lightning.

The little girl had three little dolls, and one little doll's name was Marguerite, and she had red hair and lots of it, and it was real hair too. Another little doll's name was Sally, and she had black hair — not real hair, but just painted on — and her head was made of porcelain, like dishes. The other little doll, which was a boy doll, and a Chinaman at that, hadn't any hair at all, and so he was called Old Baldy.

Lots of fairies lived near this little girl on the mountain, and they used to come and visit her and sit by the table with her. They liked the little girl and so they made her queen of the fairies. And out around the woods in the mountains there were many coyotes. They troubled the fairies very much and chased them in the night when they were dancing on the green, and then all the little fairies would scamper off to their holes, and they were lucky if some of them did not get caught by the old coyote.

One night the little girl was sleeping in her little bed in the little bedroom, with a doll on each side of her, and Old Baldy across the foot of the bed, when she heard a big coyote come up on the front steps. The coyote looked into the window and howled, "Willie wau woo! Willie wau woo! Wito hooh!" Then he howled again and pushed the window right in and came in to where the little girl was. The little girl grabbed her dolls, so that the coyote would not get them. Then she took the little red-haired doll named Marguerite, and when the

[1] This and the following tales are reprinted from "The Book of Knight and Barbara," by courtesy of the publishers, D. Appleton & Co.

coyote opened his mouth wide she pushed the dolly right down his throat. The red hair tickled him and made him sneeze, and he sneezed and sneezed until he sneezed his old head off. Then the little girl was glad and she got up and took the coyote by the hind leg and dragged him out under the tree. Then she picked up his old head and carried that off, too. Then she went back and washed the coyote-stuff all off from the floor. When that was done she put her dollies to bed, and then she went to sleep again herself. When the other coyotes came around in the night and saw what she had done, they were very much afraid.

In the morning when the fairies found it out they were very glad, and they rubbed fairy-stuff on the doll Marguerite and made her alive again. Then they all had such a good time — the little girl and the fairies and the dolls. They cooked and ate and played in the grass, and the coyotes all ran away from the mountain and didn't trouble them any more.

One day I was walking in the woods on the mountain and I saw the little girl asleep on the grass. So I woke her up and took her on my back and walked way down the mountain with her and along the road clear to Escondité, where we used to live. When the little girl got to Escondité, she looked at the trees and the roses and the monkeys in the barn, and she said she would stay there. And she has lived at our house ever since. When the fairies came around her little house in the woods, they saw that the little girl was gone, and at first they felt badly; but when they found the little red-haired doll named Marguerite they made her their queen and fixed up the little house very nicely for her and for Old Baldy, and she has been queen of the fairies ever since; and if you look up on the mountain on a dark night you will see the little electric lights that shine all night from her bedroom window so that the fairies can see to dance on the grass.

The Little Legs That Ran Away

Once there was a little girl and she used to take off her little legs when she went to bed at night and put them with her clothes and the rest of her things in a chair. And one night the little legs got uneasy and ran away. They found the bedroom door open; so they ran down the steps into the garden and

across the gravel walk out into the fields, and away so far no one could see them. When the little girl woke up in the morning she found that her legs were gone; so she couldn't walk. And she began to cry until her mother came in, and then they looked all around for the little legs. When they went out into the garden, they saw the prints on the gravel which the little legs had made on going out, for it had just been raining and you could see the marks quite plainly. So her father saddled the horses, and they got on their backs, and cantered around all over the fields and down the road and looked for the little legs. By and by they saw something running by the side of the road away down toward the Bay. Then they whipped up the horses, and they ran very fast, and the father got off from his horse and caught the little legs just as they were getting tangled in a barbed-wire fence. Then he picked up the little legs and wrapped them in a soft blanket and put them under his coat and carried them home. Then they fastened them on again, so that the little girl could make them carry her around anywhere she wanted to go; and ever since then she has kept them stuck on tight, so they can't get away, and she never, never takes them off at night.

The Eagle and the Blue-tailed Skink

There was once a Blue-tailed Skink, and he sat on a log in the sun and had a good time, and on top of the tree over his head there was a big bald Eagle. The Eagle watched the Blue-tailed Skink sitting on the log in the sun, until she thought it was time to eat him. Then she swooped down on him. When the Skink saw the Eagle coming he gave a jump forward, so that when the Eagle got down there she just caught the end of his tail. The tail of the Skink will come off if you catch hold of it. It is made and put on that way. So the Skink left the Eagle with the tail in her claws. He was all right himself, and he ran down the side of the log while the Eagle ate up the tail.

Then the Blue-tailed Skink looked up the tree and saw where high in the crotch of the tree the Eagle had a nest. In the nest were four eggs. So the Skink ran up the side of the tree to the nest. Then he looked down and saw the Eagle on the log eating up his tail. So he ate up the four eggs that the

Eagle had laid in her nest, and he said: "There is just enough meat in these eggs to make me a new tail."

The Eagle saw the Skink sitting in the nest on the tree; so she flew up to seize him. But the Skink ran down on the other side. When the Eagle got back to her nest she saw that the eggs were gone, and she said: "I've eaten the Skink's tail, and there is just enough meat in that tail to make me four new eggs."

The Skink lay down in the shade under the log until he had grown another blue tail, and when he had done this, then he ran back up on the log and sat in the sun. The Eagle laid four more eggs in the nest and watched the Skink. Very soon the Eagle jumped down to catch him. She got the Skink by the end of the tail and the tail came off. Then the Skink ran away and saw the Eagle munching his tail, and the tail squirmed while the Eagle munched it. Then the Skink ran up the tree to the Eagle's nest and saw four eggs there. So he ate the eggs; and the Eagle had the tail and the Skink had the eggs, and they were ready to start over again. For there was meat enough in the tail to make four more eggs, and meat enough in the eggs to make another blue tail.

"And so," remarked Barbara sympathetically, "the Blue-tailed Skink never lost his tail forever."

The Siege of Troy

(*From an ancient manuscript*)

There once were some Trojans, of course,
So we Greeks built a big wooden horse;
  Agamemnon[1] did grin
  As we boys clambered in,
And he said: "How is this for a horse?"

We painted the beast black and red,
And Aggie, he waggled its head,
  While behind for a tail
  Nestor's whiskers did trail;
But we might have used pea straw instead.

[1] Recent researches having shown that Achilles, the original hero, could not have been present on this occasion, because of an injured heel, a classical authority has suggested the substitution of Agamemnon as the next in command.

Then we fixed up four legs for the horse,
And they made me a fore-leg, of course;
  With Epeus and Pyrrhy,
  And Patsei Olyri,
We trotted him round on his course.

We tied the great horse to a tree;
Then the Trojans all came out to see;
  But never a squeak
  Did they hear from a Greek.
"All aphone now," says Nestor, says he.

Then the Trojans all chortled for joy
As they led the great horse into Troy;
  But the Greeks hid within
  Lay silent as sin,
For we would not surprise or annoy.

To a big poplar tree in the park
They tied the big horse just at dark;
  They called him Old Charley,
  And gave him some barley,
That he might not be biting the bark.

Then they locked up the old city gate,
And before the town clock had struck eight,
  They were all safe in bed,
  For every one said:
"'Tis time to re-cu-per-ate."

When Sleep spread her wings over Troy
And Hypnos her arts did employ,
  Then from out the big horse,
  We Greeks crawled, of course;
And we reddened the town in our joy.

While the Trojans still peacefully slept,
In their chambers we stealthily crept,
  And each Trojan of course,
  We removed to the horse,
Then the bolt through its fastening slipped.

When the Trojans were all stowed inside,
Said Aggie: "Now give them a ride!"
  Through the great city gate
  The horse started straight,
And we left him alone in his pride.

Then Aggie, he led us on foot
To the sign of the "Horns of the Goat,"
  Then to Bacchus did homage,
  With incident damage
To the skins at the Inn of the Goat!

The night thus wore wearily on
Till it came to its end with the dawn,
  When eager-lipped Eos
  Kissed snow-mantled Chios,
And awakened Aurora the Dawn.

Then the Trojans got up, rubbed their eyes,
And each said: "Well, this *is* a surprise.
  I was safe in my bed,
  But now I've been fed
To this monster in equine disguise!"

And the Trojans believe to this day,
That the beast which thus bore them away
  Had got loose in the night,
  Not being tied tight,
And had swallowed them all in his play!

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Brief Mention of Certain Graduates of Stanford University between 1892 and 1899

I do not feel satisfied to let this volume pass out of my hands without some further notice of early students of Stanford University. But to cite the many hundreds who gayly came and sadly went would make a list of unseemly length. I shall therefore limit reference to some three score who finished their college work before 1900, at the same time including practically no one mentioned elsewhere in my life story. Yet it is still a difficult task, particularly so because selections must be more or less arbitrary and based to a large degree on continued association during recent years. Nevertheless, my wife comforts me with the thought that a woman rarely gives a big party without forgetting to invite her dearest friend or her nearest neighbor.[1]

Le Roy Abrams, '99, botanist, associate professor of Systematic Botany, assistant and successor to Professor Dudley; Maxwell Adams, '95, professor of Chemistry in the University of Nevada; Dr. George H. Ashley, '92, long connected with the United States Geological Survey, now state geologist of Pennsylvania; William S. Atkinson, '99, scientific illustrator for the departments of Zoölogy and Botany at Stanford; Arthur H. Barnhisel, '93, in business in Tacoma; Frank G. Baum, '98, one of the leading electrical engineers in the West, for a time assistant professor on the Stanford faculty; Louis S. Beedy, '98, attorney in San Francisco; Henry M. Bland, '95, now professor of English in the San José Normal School; Benjamin F. Bledsoe, '96, attorney, now judge of the Federal Court in the southern district of California; Hans F. Blichfeldt, '96, originally from Slesvig, a student of remarkable ability in Mathematics, in which field he rose to occupy a professorship at Stanford.

William D. Briggs, '96, called back to Stanford in 1906, now associate professor in English; Susan B. Bristol, '97, for years appointment secretary at Stanford, now in journalism in New York; Lyman V. W. Brown, '96, a prominent orchardist of Riverside; James T. Burcham, '97, for some years a member of the Stanford Law faculty, now an attorney at Spokane; Scott Calhoun, '95, an attorney at Seattle; Bertha L. Chapman (Mrs. V. M. Cady),

[1] See also Chapter xvii, pages 405–413.

'95, a leading apostle of nature study and lecturer on Hygiene, now at Chico, California; Newton Cleaveland, '99, once instructor in Physiology at Stanford, now superintendent of mining construction; Mel T. Cook, '94, professor of Botany in Rutgers College; Rheinart P. Cowles, '99, professor of Zoölogy at Johns Hopkins; Charles E. Cox, '93, for nine years instructor and assistant professor in Mathematics at Stanford, now engaged in business in San Francisco; Frank Cramer, '93, sometime assistant in Zoölogy at Stanford, founder of the Manzanita School for boys at Palo Alto; Wesley C. Crandall, '99, research naturalist, Scripps Marine Station, San Diego; Rennie W. Doane, '96, associate professor of Entomology at Stanford, an expert in Economic Entomology.

Jefferson Elmore, '95, associate professor in Latin at Stanford; James Ferguson, '99, now principal of the Chico High School; Charles A. Fife, '94, a leading physician of Philadelphia; Forrest S. Fisher, '99, an attorney in Portland; Myron A. Folsom, '96, an authority on mining law, now an oil producer; Walter Fong, '96, a student of Economics of high ability, president of Lee Sing College, Hongkong, at the time of his death in 1906; Benjamin O. Foster, '95, associate professor of Latin at Stanford; Lewis R. Freeman, ex-'99, athlete, traveler, and war correspondent; Charles W. Greene, '92, for some years associate professor of Physiology at Stanford, now professor in the University of Missouri; Howard J. Hall, '96, assistant professor of English at Stanford; Alice N. Hays, '96, since graduation one of the mainstays of the Stanford Library; Clark W. Hetherington, '95, instructor in Organic Training at Stanford, sometime professor in the University of Missouri, later in that of Wisconsin, more recently director of Physical Education for California; Franklin Hichborn, ex-'95, a leader in the work of Social Sanitation; Brodie G. Higley, '99, attorney in New York; Harold P. Hill, '98, professor of Medicine, Stanford Medical College; Lester H. Hinsdale, '95, one of the famous "Three H's," Hinsdale, Hoover, and Hicks — the "barbarian combination" which broke down extreme fraternity domination at Stanford — now an attorney in San Francisco.

Agnes Howe, '97, superintendent of schools of Santa Clara County; John A. Keating, '94, bank president in Portland; William W. Kemp, '98, for some years professor of Education in the University of California, now president of the San José Normal School; Dexter S. Kimball, '96, assistant professor of Mechanical Engineering at Stanford, then professor at Cornell, now dean of the Sibley College of Mechanic Arts and during part of the war period acting president of Cornell; Susan M. Kingsbury, '99, now director of Social Economy and Social Research at Bryn Mawr; Victor H. Klauber, '98, in business, San Diego; Frederick G. Krauss, ex-'95, an agriculturist in Hawaii; Shinkai Kuwana, '99, for some time instructor in Entomology at Stanford, now imperial entomologist of Japan, and president of the Stanford Club of Tokyo; Homer Laughlin, Jr., '96, manufacturer, Los Angeles; Chloe F. Lesley (Mrs. E. C. Starks), ex-'98, now assistant professor of Graphic Arts at Stanford; Everett P. Lesley, '97, her brother, now professor of Mechanical Engineering at Stanford; Charles R. Lewers, '96, assistant professor of Law at Stanford for six years, attorney of the Southern Pacific Company at the time of his recent death; George W. A. Luckey, '94, for many years professor of Education in the University of Nebraska, now agent of the Federal Bureau of Education for research work in Europe.

Annie Lyle, '95, San Francisco physician, specialist in the care of women

and children; Dorsey A. Lyon, '98, U. S. Bureau of Mines; Frank M. McFarland, '93, professor of Histology at Stanford; Richard C. McGregor, '98, ornithologist of the Bureau of Science in the Philippines; Duncan MacKinnon, '99, banker, San Diego; Anne Martin, '96, for some years professor of History in the University of Nevada, an active worker in the campaign for women's suffrage, with prospects of becoming United States Senator from Nevada; Stephen I. Miller, '98, sometime assistant professor of Economics at Stanford, now dean of the School of Commerce, University of Washington; Will S. Monroe, '94, teacher and traveler, an authority on the Balkans, professor in the State Normal School at Montclair, N. J.; John F. Newsom, '92, for some years professor of Mining at Stanford, now engaged in professional work outside; Mrs. Anne E. Peck, '98, good neighbor; George C. Price (Ph. D. '97), for many years professor of Comparative Anatomy at Stanford; William W. Price, '97, naturalist, founder of the Agassiz School for boys, now proprietor of the summer camp at Fallen Leaf Lake; Karl G. Rendtorff, '94, formerly a student at the University of Kiel, who upon his graduation from Stanford was appointed to its department of German, in which he made his doctorate and now remains as professor.

Jackson E. Reynolds, '96, a noted athlete, for some years member of the Law Faculty of Stanford, later in that of Columbia, now president of the First National Bank of New York City; Harry B. Reynolds, '96, his brother and classmate, practicing physician in Palo Alto; Robert C. Root, '94, teacher of Economics, for years local secretary in California of the American Peace Society; Margaret Schallenberger (Mrs. John McNaught), '98, for a time instructor in Education at Stanford, afterward teacher in the State Normal School at San José, and still active in state educational supervision; George W. Scott, '96, sometime professor of International Law at Columbia, a special student of Mexican affairs, now in business in Los Angeles; Edward C. Sewall, '98, now professor in the division of surgery in the Stanford Medical School; Henry D. Sheldon, '96, now professor of Education in the University of Oregon; Perry O. Simons, ex-'98, zoölogist, who after making extensive collections in Peru and Bolivia was murdered by brigands on the Bolivia-Argentina frontier.

David Snedden, '97, professor of Education in Columbia, sometime state commissioner of education of Massachusetts; William F. Snow, '96, for some years professor of Hygiene at Stanford, now secretary of the American Hygiene Association; Charles D. Snyder, '96, professor of Physiology in Johns Hopkins; Alfred B. Spalding, '96, now professor of Gynecology and Obstetrics at Stanford.

Henrietta L. Stadtmüller, '95, whose gay wit and friendly vivacity still enliven all Stanford gatherings in San Francisco or on the Campus; Herbert S. Stark, '95, distinguished mining engineer, died in the Transvaal, 1910; Herman D. Stearns, '92, associate professor of Physics at the time of his death in 1907; Laura Steffens (Mrs. Allen H. Suggett), '96, long assistant in the State Library at Sacramento, now in charge of the Sutro Library in San Francisco; Nettie M. Stevens, '99, one of the ablest scientific investigators developed at Stanford, associate in Experimental Morphology at Bryn Mawr until her death in 1912; Thomas A. Storey, '96, sometime assistant professor of Organic Training at Stanford, now professor of Hygiene in the College of the City of New York; Henry Suzzallo, '99, formerly assistant professor of Education at Stanford, later professor at Columbia, now president of the

University of Washington; Robert E. Swain, '99, professor of Chemistry at Stanford, on the faculty since 1903; Carl C. Thomas, ex-'95, for some years dean of the Engineering School of Johns Hopkins, engineer and constructor.

Chester A. Thomas, '98, prominent mining engineer, recently deceased; John Van Denburgh, '94, practicing physician of San Francisco, a high authority on American reptiles; Royall Victor, '00, high in the legal profession of New York City; Arthur W. Washburn, '93, and Mrs. Jessica Thompson Washburn, '92, founders of the Washburn School in San José; Hutton Webster, '96, professor of Anthropology in the University of Nebraska; Albert C. Whitaker, '99, professor of Economics at Stanford, on the faculty since 1902; Clarke B. Whittier, '93, professor of Law at Stanford, sometime professor in the University of Chicago; and Evelyn Wight (Mrs. Mansfield Allan), '96, first dean of women at Stanford, in which capacity she served from 1908 to 1916, now principal of the Girls' Commercial High School in Brooklyn.

In a class by themselves stand "the Doles." Belonging to a well-known missionary family of Hawaii, they are thus nephews and nieces of Sanford B. Dole, long president of the island republic, and cousins of the Rev. Charles F. Dole of Boston. Eight of the thirteen children, six sons and two daughters, graduated from Stanford between 1895 and 1911, and one more spent three years with us, then going elsewhere for special work in Agriculture. All were remarkable for sturdiness of character and high scholarship joined to unusual athletic ability. The Coast record for pole vaulting was held for about six years by Charles Sumner Dole, '99, the first of the men to enter Stanford, now planter, district magistrate, and editor on the island of Kauai. Norman E. Dole, '04, made and apparently still holds the world record for the high vault with a rigid pole, though his mark has since been passed by others who used an elastic bamboo.

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